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Analyses of Natural Gases, 1979

By B. J. Moore

UNITED STATES DEPARTMENT OF THE INTERIOR

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Analyses of Natural Gases, 1979

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UNITED STATES DEPARTMENT OF THE INTERIOR
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As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

This publication has been cataloged as follows:

U.S. Bureau of Mines
Analyses of natural gases, 1979.

Washington, For sale by the Superintendent of Documents, U.S. Govt. Print. Off.
(1) v. 26 cm. annual. (Its information circular)

1. Helium. 2. Gas, Natural—U.S. I. Title. (Series)

TN295.U4 64-61479

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

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ANALYSES OF NATURAL GASES, 1979

by

B. J. Moore [1]

INTRODUCTION

This publication contains analyses and related source data for 269 natural gas samples from wells and pipelines in 18 States. All of the samples were obtained and analyzed during calendar year 1979 as a part of Bureau of Mines investigations of the occurrences of helium in natural gases of countries with free market economies. This survey has been conducted in the United States by the Bureau of Mines since 1917. In late 1965, the survey was expanded to include foreign gasfields. The analyses published herein were made by mass spectrometer and a special helium analysis apparatus, which are described in Bureau of Mines Bulletins 486[2] and 576.[3]

The results of the investigation of the occurrences of helium are published annually to make the information available as soon as possible to the gas industry and the general public. Twenty-one previous publications have presented the results of 11,883 gas analyses made prior to 1979. The first three, Bulletins 486,[4] 576,[5] and 617,[6] contain analyses and related source

[1]Chief, Unit of Helium Resources Evaluation, Section of Helium Resources, Helium Field Operations, Bureau of Mines, Amarillo, Tex.

[2]Anderson, C. C., and H. H. Hinson. Helium-Bearing Natural Gases of the United States. Analyses and Analytical Methods. BuMines Bull. 486, 1951, 141 pp.

[3]Boone, W. J., Jr. Helium-Bearing Natural Gases of the United States. Analyses and Analytical Methods. Supplement to Bulletin 486. BuMines Bull. 576, 1958, 117 pp.

[4]Work cited in footnote 2.

[5]Work cited in footnote 3.

[6]Munnerlyn, R. D., and R. D. Miller. Helium-Bearing Natural Gases of the United States: Analyses. Second Supplement to Bulletin 486. BuMines Bull. 617, 1963, 93 pp.

data on 5,218 gas samples collected from 1917 through 1960. The other 18 publications,[7] which were issued as information circulars, supplement the three bulletins and contain 6,665 analyses of samples collected since 1960. This publication is the 19th publication supplementing the three bulletins.

In 1976, a compilation of the analyses made prior to 1975 was published by the National Technical Information Service of the U.S. Department of Commerce. This compilation, entitled "Analyses of Natural Gases, 1917-74," contains 10,562 analyses of gas samples from oil and gas wells and natural gas pipelines in 37 States and 23 foreign countries. The compilation is available from the National Technical Information Service, Springfield, Va. 22161. Catalog number of the publication is PB 251-202 and the price is $40.

In addition to being included in the publications, all published analyses and related information are available on a magnetic tape file. The tape is also available from the National Technical Information Service, and orders should refer to Bureau of Mines Tape PB 283-264, $125.

ACKNOWLEDGMENTS

The helium survey program is conducted by soliciting natural gas samples throughout the United States and other countries with free market economies. Without the assistance of the oil and gas industry, State and national agencies, and many individuals engaged in oil and gas exploration and production, the helium survey with its present scope would be impossible.

---

[7]Miller, R. D., and G. P. Norrell. Analyses of Natural Gases of the United States, 1961. BuMines IC 8221, 1964, 148 pp.
_____. Analyses of Natural Gases of the United States, 1962. BuMines IC 8239, 1964, 120 pp.
_____. Analyses of Natural Gases of the United States, 1963. BuMines IC 8241, 1965, 102 pp.
Moore, B. J., R. D. Miller, and R. D. Shrewsbury. Analyses of Natural Gases of the United States, 1964. BuMines IC 8302, 1966, 144 pp.
Moore, B. J., and R. D. Shrewsbury. Analyses of Natural Gases of the United States, 1965. BuMines IC 8316, 1966, 181 pp.
_____. Analyses of Natural Gases, 1966. BuMines IC 8356, 1967, 130 pp.
_____. Analyses of Natural Gases, 1967. BuMines IC 8395, 1968, 187 pp.
Cardwell, L. E., and L. F. Benton. Analyses of Natural Gases, 1968. BuMines IC 8443, 1969, 169 pp.
_____. Analyses of Natural Gases, 1969. BuMines IC 8475, 1970, 134 pp.
_____. Analyses of Natural Gases, 1970. BuMines IC 8518, 1971, 130 pp.
_____. Analyses of Natural Gases, 1971. BuMines IC 8554, 1972, 163 pp.
_____. Analyses of Natural Gases, 1972. BuMines IC 8607, 1973, 104 pp.
Moore, B. J. Analyses of Natural Gases, 1973. BuMines IC 8658, 1974, 96 pp.
_____. Analyses of Natural Gases, 1974. BuMines IC 8684, 1975, 122 pp.
_____. Analyses of Natural Gases, 1975. BuMines IC 8717, 1976, 82 pp.
_____. Analyses of Natural Gases, 1976. BuMines IC 8749, 1977, 94 pp.
_____. Analyses of Natural Gases, 1977. BuMines IC 8780, 1978, 95 pp.
_____. Analyses of Natural Gases, 1978. BuMines IC 8810, 1979, 113 pp.

The analyses listed in the tables were made by the Unit of Technical Services, Helium Field Operations, Bureau of Mines, Amarillo, Tex. The list of analyses was produced through use of a computer by the Unit of Automatic Data Processing, Helium Field Operations, Bureau of Mines, Amarillo, Tex.

GEOLOGIC PROVINCES OF THE UNITED STATES

The tables include geologic province codes so that each sample source can be located within a specific geologic province as defined by the Committee on Statistics of Drilling of the American Association of Petroleum Geologists.[8] These provinces, which are given in the following list and shown in figure 1, are delineated by political boundaries for convenience and for accommodation of data-processing equipment. The accompanying list and figure 1 are taken from the article cited in footnote 8. Not all of the provinces shown are gas-producing areas, so many of the codes are not used in this publication. In offshore areas, only one code is used for each State, since State or Federal ownership is not always known. Only one code, 972, is used for all wells in Alaska, both onshore and offshore, because of the lack of information on the location of wells in that State.

Code	Province
100	New England province
110	Adirondack uplift
120	Atlantic Coast basin
130	South Georgia-North Florida sedimentary province
140	South Florida province
150	Piedmont-Blue Ridge province
160	Appalachian basin
200	Warrier basin
210	Mid-Gulf Coast basin
220	Gulf Coast basin
230	Arkla basin
240	Desha basin
250	Upper Mississippi embayment
260	East Texas basin
300	Cincinnati arch
305	Michigan basin
310	Wisconsin arch
315	Illinois basin
320	Sioux uplift
325	Iowa shelf
330	Lincoln anticline
335	Forest City basin
340	Ozark uplift
345	Arkoma basin

[8]Meyer, R. F. Geologic Provinces Code Map for Computer Use. AAPG Bull., v. 54/7, July 1970, pp. 1301-1305.

FIGURE 1. - Geologic provinces of the United States.

Code	Province
350	South Oklahoma folded belt province
355	Chautauqua platform
360	Anadarko basin
365	Cherokee basin
370	Nemaha anticline
375	Sedgwick basin
380	Salina basin
385	Central Kansas uplift
390	Chadron arch
395	Williston basin
400	Ouachita tectonic belt province
405	Kerr basin
410	Llano uplift
415	Strawn basin
420	Fort Worth syncline
425	Bend arch
430	Permian basin
435	Palo Duro basin
440	Amarillo arch
445	Sierra Grande uplift
450	Las Animas arch
455	Las Vegas-Raton basin
460	Estancia basin
465	Orogrande basin
470	Pedregosa basin
475	Basin-and-Range province
500	Sweetgrass arch
505	Montana folded belt province
510	Central Montana uplift
515	Powder River basin
520	Big Horn basin
525	Yellowstone province
530	Wind River basin
535	Green River basin
540	Denver basin
545	North Park basin
550	South Park basin
555	Eagle basin
560	San Luis basin
565	San Juan Mountain province
570	Uinta uplift
575	Uinta basin
580	San Juan basin
585	Paradox basin
590	Black Mesa basin
595	Piceance basin

Code	Province
600	Northern Cascade Range--Okanagan province
605	Eastern Columbia basin
610	Idaho Mountains province
615	Snake River basin
620	Southern Oregon basin
625	Great Basin province
630	Wasatch uplift
635	Plateau sedimentary province
640	Mojave basin
645	Salton basin
650	Sierra Nevada province
700	Bellingham basin
705	Puget Sound province
710	Western Columbia basin
715	Klamath Mountains province
720	Eel River basin
725	Northern Coast Range province
730	Sacramento basin
735	Santa Cruz basin
740	Coastal basins
745	San Joaquin basin
750	Santa Maria basin
755	Ventura basin
760	Los Angeles basin
765	Capistrano basin
800	Heceta Island area
805	Keku Islands area
810	Gulf of Alaska basin
815	Copper River basin
820	Cook Inlet basin
830	Kandid province
835	Kobuk province
840	Koyukuk province
845	Bristol Bay basin
850	Bethel basin
855	Norton basin
860	Selawik basin
863	Yukon Flats basin
865	Lower Tanana basin
867	Middle Tanana basin
870	Upper Tanana basin
873	Galena basin
875	Innoko basin
877	Minchumina basin
880	Holitna basin
885	Arctic Foothills province
890	Arctic Slope basin

Code	Province
900	Maine Atlantic offshore--general
901	Maine Atlantic offshore--State
902	Maine Atlantic offshore--Federal
903	New Hampshire Atlantic offshore--general
904	New Hampshire Atlantic offshore--State
905	New Hampshire Atlantic offshore--Federal
906	Massachusetts Atlantic offshore--general
907	Massachusetts Atlantic offshore--State
908	Massachusetts Atlantic offshore--Federal
909	Rhode Island Atlantic offshore--general
910	Rhode Island Atlantic offshore--State
911	Rhode Island Atlantic offshore--Federal
912	Connecticut Atlantic offshore--general
913	Connecticut Atlantic offshore--State
914	Connecticut Atlantic offshore--Federal
915	New York Atlantic offshore--general
916	New York Atlantic offshore--State
917	New York Atlantic offshore--Federal
918	New Jersey Atlantic offshore--general
919	New Jersey Atlantic offshore--State
920	New Jersey Atlantic offshore--Federal
921	Delaware Atlantic offshore--general
922	Delaware Atlantic offshore--State
923	Delaware Atlantic offshore--Federal
924	Maryland Atlantic offshore--general
925	Maryland Atlantic offshore--State
926	Maryland Atlantic offshore--Federal
927	Virginia Atlantic offshore--general
928	Virginia Atlantic offshore--State
929	Virginia Atlantic offshore--Federal
930	North Carolina Atlantic offshore--general
931	North Carolina Atlantic offshore--State
932	North Carolina Atlantic offshore--Federal
933	South Carolina Atlantic offshore--general
934	South Carolina Atlantic offshore--State
935	South Carolina Atlantic offshore--Federal
936	Georgia Atlantic offshore--general
937	Georgia Atlantic offshore--State
938	Georgia Atlantic offshore--Federal
939	Florida Atlantic offshore--general
940	Florida Atlantic offshore--State
941	Florida Atlantic offshore--Federal
942	Florida Gulf of Mexico offshore--general
943	Florida Gulf of Mexico offshore--State
944	Florida Gulf of Mexico offshore--Federal
945	Alabama Gulf of Mexico offshore--general
946	Alabama Gulf of Mexico offshore--State
947	Alabama Gulf of Mexico offshore--Federal

Code	Province
948	Mississippi Gulf of Mexico offshore--general
949	Mississippi Gulf of Mexico offshore--State
950	Mississippi Gulf of Mexico offshore--Federal
951	Louisiana Gulf of Mexico offshore--general
952	Louisiana Gulf of Mexico offshore--State
953	Louisiana Gulf of Mexico offshore--Federal
954	Texas Gulf of Mexico offshore--general
955	Texas Gulf of Mexico offshore--State
956	Texas Gulf of Mexico offshore--Federal
957	California Pacific offshore--general
958	California Pacific offshore--State
959	California Pacific offshore--Federal
960	Oregon Pacific offshore--general
961	Oregon Pacific offshore--State
962	Oregon Pacific offshore--Federal
963	Washington Pacific offshore--general
964	Washington Pacific offshore--State
965	Washington Pacific offshore--Federal
972	Alaska Arctic offshore--general
973	Alaska Arctic offshore--State
974	Alaska Arctic offshore--Federal
975	Alaska Bering Sea offshore--general
976	Alaska Bering Sea offshore--State
977	Alaska Bering Sea offshore--Federal
978	Alaska Pacific offshore--general
979	Alaska Pacific offshore--State
980	Alaska Pacific offshore--Federal
987	Minnesota Lake Superior offshore
988	Wisconsin Lake Superior offshore
989	Michigan Lake Superior offshore
990	Indiana Lake Michigan offshore
991	Illinois Lake Michigan offshore
992	Wisconsin Lake Michigan offshore
993	Michigan Lake Michigan offshore
994	Michigan Lake Huron offshore
995	Michigan Lake Erie offshore
996	Ohio Lake Erie offshore
997	Pennsylvania Lake Erie offshore
998	New York Lake Erie offshore
999	New York Lake Ontario offshore

TABLES

The following tables include the results of analyses and related source data from gas samples, which are divided into two groups as follows:

Table 1. - Samples from gas and oil wells in the United States.

Table 2. - Samples from pipelines in the United States.

The following list indicates the sources of the samples listed in the tables:

Source	Number of samples	Tables
Alabama	9	1, 2
Arkansas	9	1, 2
California	26	1, 2
Colorado	17	1
Florida	1	1
Kansas	32	1, 2
Louisiana	15	1
Michigan	4	1
Mississippi	4	1, 2
Nevada	1	1
New Mexico	9	1
New York	19	1
North Dakota	1	1
Oklahoma	43	1, 2
Texas	50	1, 2
Utah	4	1
West Virginia	2	1
Wyoming	15	1

All components of the analyses in the tables are reported to the nearest 0.1 percent, except helium, which is reported to the nearest 0.01 percent. The word "trace" is used to denote quantities of helium of less than 0.005 percent and quantities of other components of less than 0.05 percent.

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 1 SAMPLE 15611		INDEX 2 SAMPLE 15687		INDEX 3 SAMPLE 15745	
STATE	ALABAMA		ALABAMA		ALABAMA	
COUNTY	FAYETTE		LAMAR		LAMAR	
FIELD	MCCRACKEN		STAR		WILDCAT	
WELL NAME	G. D. GRAY NO. 1		L. J. HAYES NO. 1		MCLAUGHLIN NO. 1	
LOCATION	SEC. 21, T16S, R12W		SEC. 2, T16S, R16W		SEC. 34, T13S, R15W	
OWNER	TERRA RESOURCES, INC.		SOUTHLAND ROYALTY CO.		WARRIOR DRILLING & ENG. CO.	
COMPLETED	NOT GIVEN		04/20/79		06/05/79	
SAMPLED	04/26/79		07/12/79		09/07/79	
FORMATION	NOT GIVEN		MISS-CARTER		MISS-CARTER	
GEOLOGIC PROVINCE CODE	200		200		200	
DEPTH, FEET	2313		4183		2372	
WELLHEAD PRESSURE,PSIG	NOT GIVEN		1621		930	
OPEN FLOW, MCFD	11000		NOT GIVEN		NOT GIVEN	
COMPONENT, MOLE PCT						
METHANE	92.3	----------	89.8	----------	85.8	----------
ETHANE	4.6		5.0		1.1	
PROPANE	0.8	----------	1.9	----------	0.4	----------
N-BUTANE	0.2		0.6		0.2	
ISOBUTANE	0.1	----------	0.4	----------	TRACE	----------
N-PENTANE	TRACE		0.3		0.1	
ISOPENTANE	TRACE	----------	0.3	----------	0.1	----------
CYCLOPENTANE	0.1		0.1		TRACE	
HEXANES PLUS	0.1	----------	0.2	----------	0.1	----------
NITROGEN	1.3		1.3		9.8	
OXYGEN	0.1	----------	TRACE	----------	2.2	----------
ARGON	TRACE		0.0		0.1	
HYDROGEN	TRACE	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	0.4	----------	TRACE	----------	TRACE	----------
HELIUM	0.09		0.10		0.07	
HEATING VALUE*	1057	----------	1122	----------	920	----------
SPECIFIC GRAVITY	0.604		0.637		0.626	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 4 SAMPLE 15704	INDEX 5 SAMPLE 15705	INDEX 6 SAMPLE 15578
STATE	ALABAMA	ALABAMA	ARKANSAS
COUNTY	TUSCALOOSA	TUSCALOOSA	MILLER
FIELD	COAL MINE	COAL MINE	GENOA
WELL NAME	JIM WALTERS RES. NO. 4	JIM WALTERS RES. NO. 4	ROSA MEEK NO. 1
LOCATION	OAK GROVE AREA	OAK GROVE AREA	SEC. 16, T16S, R27W
OWNER	JIM WALTERS RESOURCES	JIM WALTERS RESOURCES	AMERICAN PETROFINA CO.
COMPLETED	NOT GIVEN	NOT GIVEN	05/16/78
SAMPLED	NOT GIVEN	NOT GIVEN	03/05/79
FORMATION	PENN-MARY LEE	PENN-MARY LEE	JURA-SMACKOVER
GEOLOGIC PROVINCE CODE	200	200	230
DEPTH, FEET	NOT GIVEN	NOT GIVEN	7823
WELLHEAD PRESSURE,PSIG	NOT GIVEN	NOT GIVEN	2750
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	3250
COMPONENT, MOLE PCT			
METHANE	97.7	97.9	43.2
ETHANE	TRACE	0.1	4.3
PROPANE	TRACE	TRACE	2.5
N-BUTANE	0.0	0.0	0.9
ISOBUTANE	0.0	0.0	0.7
N-PENTANE	0.0	0.0	0.2
ISOPENTANE	0.0	0.0	0.3
CYCLOPENTANE	0.0	0.0	TRACE
HEXANES PLUS	0.0	0.0	0.2
NITROGEN	1.7	1.5	45.7
OXYGEN	0.4	0.4	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.1	1.8
HELIUM	0.05	0.02	0.12
HEATING VALUE*	990	994	665
SPECIFIC GRAVITY	0.564	0.564	0.845

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 7 SAMPLE 15579		INDEX 8 SAMPLE 15645		INDEX 9 SAMPLE 15706	
STATE	ARKANSAS		ARKANSAS		CALIFORNIA	
COUNTY	MILLER		POPE		GLENN	
FIELD	GENOA		DOVER		RANCHO CAPAY	
WELL NAME	MCININCH NO. 1		GRANT NO. 1		WELDGEN EDDINS NO. 1	
LOCATION	SEC. 17, T16S, R27W		SEC. 35, T9N, R20W		SEC. 14, T22N, R2W	
OWNER	AMERICAN PETROFINA CO.		RESERVE OIL CO.		GULF OIL CORP.	
COMPLETED	11/12/77		NOT GIVEN		NOT GIVEN	
SAMPLED	03/05/79		06/06/71		07/23/79	
FORMATION	JURA-SMACKOVER		PENN-SPIRO & ATOKA		CRET-FORBES	
GEOLOGIC PROVINCE CODE	230		345		730	
DEPTH, FEET	7900		4656		5354	
WELLHEAD PRESSURE,PSIG	2741		1660		2402	
OPEN FLOW, MCFD	7500		3000		5100	
COMPONENT, MOLE PCT						
METHANE	42.9		87.8		97.8	
ETHANE	4.3		1.2		0.2	
PROPANE	2.6		0.1		TRACE	
N-BUTANE	1.0		0.0		0.0	
ISOBUTANE	0.7		0.0		0.0	
N-PENTANE	0.2		0.0		0.0	
ISOPENTANE	0.3		0.0		0.0	
CYCLOPENTANE	TRACE		0.0		0.0	
HEXANES PLUS	0.1		0.0		0.0	
NITROGEN	45.8		8.4		1.8	
OXYGEN	0.0		1.9		TRACE	
ARGON	TRACE		0.1		TRACE	
HYDROGEN	TRACE		TRACE		0.0	
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	1.8		0.3		0.1	
HELIUM	0.12		0.11		TRACE	
HEATING VALUE*	663		914		994	
SPECIFIC GRAVITY	0.845		0.609		0.563	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 10 SAMPLE 15739	INDEX 11 SAMPLE 15817	INDEX 12 SAMPLE 15818
STATE	CALIFORNIA	COLORADO	COLORADO
COUNTY	MERCED	LAS ANIMAS	MESA
FIELD	NOT GIVEN	NOT GIVEN	CORE NO. 2
WELL NAME	GAS SEEP IN LAKE	MOBIL CT-79-8-9C	VEGA UNIT NO. 3
LOCATION	SEC. 18, T10S, R9E	SEC. 9, T33S, R65W	SEC. 10, T10S, R93W
OWNER	U.S. GOVERNMENT	MOBIL OIL CORP.	EXXON CO., U.S.A.
COMPLETED	NOT GIVEN	NOT GIVEN	NOT GIVEN
SAMPLED	08/28/79	10/--/79	08/--/79
FORMATION	PLIO-PLEISTOCENE	NOT GIVEN	CRET-MESAVERDE
GEOLOGIC PROVINCE CODE	745	455	595
DEPTH, FEET	NOT GIVEN	1192	7587
WELLHEAD PRESSURE,PSIG	NOT GIVEN	NOT GIVEN	NOT GIVEN
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	40.8	93.7	82.1
ETHANE	0.1	TRACE	5.3
PROPANE	TRACE	TRACE	0.3
N-BUTANE	0.0	0.0	0.1
ISOBUTANE	0.0	0.0	0.0
N-PENTANE	0.0	0.0	0.0
ISOPENTANE	0.0	0.0	0.1
CYCLOPENTANE	0.0	0.0	TRACE
HEXANES PLUS	0.0	0.0	TRACE
NITROGEN	54.8	4.6	4.6
OXYGEN	0.0	0.4	0.2
ARGON	0.7	0.1	0.1
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	3.6	1.1	7.3
HELIUM	TRACE	TRACE	TRACE
HEATING VALUE*	415	949	942
SPECIFIC GRAVITY	0.822	0.587	0.680

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 13 SAMPLE 15820	INDEX 14 SAMPLE 15819	INDEX 15 SAMPLE 15723
STATE	COLORADO	COLORADO	COLORADO
COUNTY	MESA	MESA	MOFFAT
FIELD	CORE NO. 3	NOT GIVEN	BLUE GRAVEL
WELL NAME	VEGA UNIT NO. 3	VEGA UNIT NO. 3	FEDERAL NO. 1
LOCATION	SEC. 10, T10S, R93W	SEC. 10, T10S, R93W	SEC. 23, T9N, R91W
OWNER	EXXON CO., U.S.A.	EXXON CO., U.S.A.	C & K PETROLEUM, INC.
COMPLETED	NOT GIVEN	NOT GIVEN	01/24/75
SAMPLED	08/--/79	08/--/79	08/07/79
FORMATION	CRET-MESAVERDE	CRET-MESAVERDE	CRET-LEWIS
GEOLOGIC PROVINCE CODE	595	595	535
DEPTH, FEET	7592	7592	3855
WELLHEAD PRESSURE,PSIG	NOT GIVEN	NOT GIVEN	1480
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	3000
COMPONENT, MOLE PCT			
METHANE	85.9	78.3	88.2
ETHANE	4.6	3.1	6.0
PROPANE	0.3	0.2	2.7
N-BUTANE	0.0	0.0	0.7
ISOBUTANE	0.0	0.0	0.6
N-PENTANE	0.0	0.0	0.2
ISOPENTANE	0.0	0.0	0.2
CYCLOPENTANE	0.0	0.0	0.1
HEXANES PLUS	0.0	0.0	0.2
NITROGEN	2.3	9.9	0.6
OXYGEN	0.0	1.8	0.0
ARGON	TRACE	0.1	0.0
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	6.8	6.6	0.3
HELIUM	TRACE	TRACE	0.01
HEATING VALUE*	960	854	1146
SPECIFIC GRAVITY	0.655	0.688	0.650

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 16 SAMPLE 15695		INDEX 17 SAMPLE 15744		INDEX 18 SAMPLE 15868	
STATE	COLORADO		COLORADO		COLORADO	
COUNTY	MOFFAT		MONTEZUMA		RIO BLANCO	
FIELD	COTTONWOOD GULCH		MCELMO DOME		CATHEDRAL	
WELL NAME	FEDERAL NO. A-1		MOQUI UNIT NO. 2		FEDERAL 0-31	
LOCATION	SEC. 25, T8N, R91W		SEC. 12, T37N, R19W		SEC.31, T3S,R101W	
OWNER	ANADARKO PRODUCTION CO.		MOBIL OIL CORP.		FUEL RESOURCES DEVELOPMENT	
COMPLETED	02/14/79		04/18/79		NOT GIVEN	
SAMPLED	07/10/79		08/27/79		12/10/79	
FORMATION	CRET-LEWIS		MISS-		CRET-DAKOTA	
GEOLOGIC PROVINCE CODE	535		585		595	
DEPTH, FEET	3533		8000		5698	
WELLHEAD PRESSURE,PSIG	1200		685		1355	
OPEN FLOW, MCFD	6700		300000		NOT GIVEN	
COMPONENT, MOLE PCT						
METHANE	89.9	----------	0.2	----------	57.8	----------
ETHANE	5.2		TRACE		2.8	
PROPANE	1.5	----------	TRACE	----------	1.0	----------
N-BUTANE	0.5		0.0		0.3	
ISOBUTANE	0.3	----------	0.0	----------	0.3	----------
N-PENTANE	0.2		0.0		0.1	
ISOPENTANE	0.2	----------	0.0	----------	0.1	----------
CYCLOPENTANE	0.1		0.0		0.1	
HEXANES PLUS	0.2	----------	0.0	----------	0.2	----------
NITROGEN	1.7		1.7		34.0	
OXYGEN	0.1	----------	TRACE	----------	0.1	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	0.0	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	0.2	----------	97.9	----------	2.9	----------
HELIUM	0.01		0.09		0.38	
HEATING VALUE*	1101	----------	2	----------	704	----------
SPECIFIC GRAVITY	0.632		1.515		0.766	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 19 SAMPLE 15698	INDEX 20 SAMPLE 15703	INDEX 21 SAMPLE 15699
STATE	COLORADO	COLORADO	COLORADO
COUNTY	RIO BLANCO	RIO BLANCO	RIO BLANCO
FIELD	LITTLE FOUNDATION CREEK	THUNDER	THUNDER
WELL NAME	FED NO. 1-36	KIRBY-ROBERTSON NO. 3-21	6-I-9
LOCATION	SEC. 36, T4S, R102W	SEC. 21, T4S, R102W	SEC. 9, T4S, R102W
OWNER	COSEKA RESOURCES (U.S.A) LTD	COSEKA RESOURCES (U.S.A) LTD	COSEKA RESOURCES (U.S.A) LTD
COMPLETED	08/04/75	11/11/78	03/02/79
SAMPLED	05/14/79	05/14/79	05/14/79
FORMATION	CRET-MANCOS B	CRET-DAKOTA	CRET-MANCOS
GEOLOGIC PROVINCE CODE	595	595	595
DEPTH, FEET	3254	5678	3030
WELLHEAD PRESSURE,PSIG	NOT GIVEN	NOT GIVEN	NOT GIVEN
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	80.4	67.6	77.3
ETHANE	7.5	3.5	6.1
PROPANE	6.3	1.3	4.6
N-BUTANE	1.9	0.4	1.4
ISOBUTANE	1.0	0.3	0.9
N-PENTANE	0.4	0.2	0.3
ISOPENTANE	0.5	0.2	0.4
CYCLOPENTANE	0.1	0.1	0.1
HEXANES PLUS	0.2	0.2	0.2
NITROGEN	1.4	17.5	7.2
OXYGEN	TRACE	TRACE	TRACE
ARGON	TRACE	0.1	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	8.0	1.3
HELIUM	0.14	0.79	0.21
HEATING VALUE*	1263	836	1133
SPECIFIC GRAVITY	0.732	0.759	0.727

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 22 SAMPLE 15700	INDEX 23 SAMPLE 15701	INDEX 24 SAMPLE 15702
STATE	COLORADO	COLORADO	COLORADO
COUNTY	RIO BLANCO	RIO BLANCO	RIO BLANCO
FIELD	THUNDER	THUNDER	THUNDER
WELL NAME	8-G-21	10-N-21	9-J-21
LOCATION	SEC. 21, T4S, R102W	SEC. 21, T4S, R102W	SEC. 21, T4S, R102W
OWNER	COSEKA RESOURCES (U.S.A) LTD	COSEKA RESOURCES (U.S.A) LTD	COSEKA RESOURCES (U.S.A) LTD
COMPLETED	01/11/78	06/08/78	01/14/78
SAMPLED	05/14/79	05/14/78	05/14/79
FORMATION	CRET-MANCOS	CRET-MANCOS	CRET-MANCOS
GEOLOGIC PROVINCE CODE	595	595	595
DEPTH, FEET	3098	2936	3037
WELLHEAD PRESSURE,PSIG	NOT GIVEN	NOT GIVEN	NOT GIVEN
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	81.7	81.4	82.2
ETHANE	5.0	5.2	4.2
PROPANE	4.0	3.9	3.4
N-BUTANE	1.3	1.2	1.0
ISOBUTANE	0.7	0.7	0.6
N-PENTANE	0.3	0.3	0.2
ISOPENTANE	0.4	0.4	0.3
CYCLOPENTANE	0.1	0.1	0.1
HEXANES PLUS	0.2	0.2	0.2
NITROGEN	5.3	6.1	7.1
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.6	0.4	0.4
HELIUM	0.20	0.20	0.32
HEATING VALUE*	1132	1127	1085
SPECIFIC GRAVITY	0.696	0.697	0.682

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 25 SAMPLE 15696		INDEX 26 SAMPLE 15697		INDEX 27 SAMPLE 15547	
STATE	COLORADO		COLORADO		COLORADO	
COUNTY	RIO BLANCO		RIO BLANCO		YUMA	
FIELD	THUNDER		THUNDER		BEECHER ISLAND	
WELL NAME	7-F-21		4-RX-16		BEECHER ISLAND NO. 2	
LOCATION	SEC. 21, T4S, R102W		SEC. 16, T4S, R102W		SEC. 21, T2S, R43W	
OWNER	COSEKA RESOURCES (U.S.A) LTD		COSEKA RESOURCES (U.S.A) LTD		MOUNTAIN PETROLEUM, LTD.	
COMPLETED	11/02/77		05/31/78		NOT GIVEN	
SAMPLED	05/14/79		05/14/79		12/30/78	
FORMATION	CRET-MANCOS B		CRET-MANCOS B		NOT GIVEN	
GEOLOGIC PROVINCE CODE	595		595		540	
DEPTH, FEET	3223		3082		NOT GIVEN	
WELLHEAD PRESSURE,PSIG	NOT GIVEN		NOT GIVEN		NOT GIVEN	
OPEN FLOW, MCFD	NOT GIVEN		NOT GIVEN		NOT GIVEN	
COMPONENT, MOLE PCT						
METHANE	81.7	----------	83.1	----------	93.6	----------
ETHANE	4.5		4.6		1.2	
PROPANE	4.5	----------	4.1	----------	0.4	----------
N-BUTANE	1.5		1.2		0.1	
ISOBUTANE	0.9	----------	0.7	----------	TRACE	----------
N-PENTANE	0.3		0.2		TRACE	
ISOPENTANE	0.5	----------	0.4	----------	TRACE	----------
CYCLOPENTANE	0.1		0.1		TRACE	
HEXANES PLUS	0.2	----------	0.1	----------	TRACE	----------
NITROGEN	5.3		5.0		3.9	
OXYGEN	0.0	----------	0.0	----------	0.0	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	TRACE	----------	0.0	----------	0.1	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	0.3	----------	0.2	----------	0.3	----------
HELIUM	0.21		0.21		0.08	
HEATING VALUE*	1154	----------	1129	----------	984	----------
SPECIFIC GRAVITY	0.704		0.684		0.582	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 28 SAMPLE 15718	INDEX 29 SAMPLE 15570	INDEX 30 SAMPLE 15693
STATE	FLORIDA	KANSAS	KANSAS
COUNTY	SANTA ROSA	BARBER	CLARK
FIELD	JAY	BOGGS	LEXINGTON
WELL NAME	ST. REGIS 1B	FORRESTER "A" NO. 1	MOORE NO. 3
LOCATION	SEC. 43, T5N, R29W	SEC. 34, T33S, R11W	SEC. 20, T31S, R21W
OWNER	EXXON CO., U.S.A.	NATIONAL OIL CO.	MESA PETROLEUM CO.
COMPLETED	06/12/70	11/18/78	04/23/79
SAMPLED	07/30/79	02/27/79	07/08/79
FORMATION	JURA-SMACKOVER	MISS-	MISS-ST.LOUIS
GEOLOGIC PROVINCE CODE	210	375	360
DEPTH, FEET	15500	4517	5181
WELLHEAD PRESSURE,PSIG	1500	1405	1500
OPEN FLOW, MCFD	3774	4000	3900
COMPONENT, MOLE PCT			
METHANE	53.9	88.0	83.1
ETHANE	13.1	5.0	4.8
PROPANE	8.0	2.2	0.7
N-BUTANE	3.2	0.7	0.4
ISOBUTANE	2.2	0.3	0.3
N-PENTANE	1.2	0.2	0.1
ISOPENTANE	1.1	0.3	0.2
CYCLOPENTANE	0.3	0.1	0.1
HEXANES PLUS	0.9	0.2	0.2
NITROGEN	1.8	2.7	9.5
OXYGEN	0.0	TRACE	TRACE
ARGON	0.0	0.0	TRACE
HYDROGEN	0.2	0.1	TRACE
HYDROGEN SULFIDE**	10.8	0.0	0.0
CARBON DIOXIDE	3.2	TRACE	0.2
HELIUM	0.02	0.08	0.30
HEATING VALUE*	1396	1108	996
SPECIFIC GRAVITY	0.959	0.642	0.648

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 31 SAMPLE 15552	INDEX 32 SAMPLE 15806	INDEX 33 SAMPLE 15845
STATE	KANSAS	KANSAS	KANSAS
COUNTY	COMANCHE	COMANCHE	EDWARDS
FIELD	TUTTLE NE	TUTTLE NE	NOT GIVEN
WELL NAME	WOOLFOLK "E" NO. 1	BOX RANCH NO. 1	MCLEAN NO. 1
LOCATION	SEC. 29, T34S, R20W	SEC. 16, T35S, R20W	SEC. 9, T25S, R18W
OWNER	DONALD C. SLAWSON	MID CONTINENT ENERGY	IMPERIAL OIL CO.
COMPLETED	07/12/78	10/13/78	10/25/78
SAMPLED	01/02/79	09/09/79	11/29/79
FORMATION	PENN-MORROW	PENN-MORROW	PENN-MARMATON
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	5420	5650	4398
WELLHEAD PRESSURE,PSIG	1780	1400	1350
OPEN FLOW, MCFD	6000	8000	6600
COMPONENT, MOLE PCT			
METHANE	89.7	92.5	87.1
ETHANE	3.9	3.5	3.2
PROPANE	1.5	1.3	1.0
N-BUTANE	0.5	0.4	0.3
ISOBUTANE	0.2	0.2	0.1
N-PENTANE	0.1	0.2	0.1
ISOPENTANE	0.1	0.1	0.1
CYCLOPENTANE	0.1	TRACE	TRACE
HEXANES PLUS	0.1	0.2	0.1
NITROGEN	3.2	1.2	6.6
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.1	0.0	0.1
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	0.3	0.6
HELIUM	0.15	0.09	0.64
HEATING VALUE*	1059	1077	993
SPECIFIC GRAVITY	0.622	0.612	0.622

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 34 SAMPLE 15828	INDEX 35 SAMPLE 15583	INDEX 36 SAMPLE 15795
STATE	KANSAS	KANSAS	KANSAS
COUNTY	ELK	KINGMAN	MEADE
FIELD	LOGSDEN	DEWEY	CROOKED CREEK
WELL NAME	PINEGAR NO. 1	RAMSDALE NO. 2	HEINSON NO. 1-27
LOCATION	SEC. 21, T31S, R9E	SEC. 5, T28S, R5W	SEC. 27, T33S, R28W
OWNER	RAMOIL CO.	GEAR PETROLEUM CO.	MESA PETROLEUM CO.
COMPLETED	06/--/79	06/28/78	NOT GIVEN
SAMPLED	11/02/79	03/99/79	09/27/79
FORMATION	PENN-CLEVELAND	PERM-INDIAN CAVE	MISS-CHESTER
GEOLOGIC PROVINCE CODE	365	375	360
DEPTH, FEET	1812	1744	NOT GIVEN
WELLHEAD PRESSURE,PSIG	600	680	1625
OPEN FLOW, MCFD	2500	1500	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	54.2	70.8	87.8
ETHANE	5.6	2.1	4.7
PROPANE	3.6	0.7	2.2
N-BUTANE	1.1	0.2	0.7
ISOBUTANE	0.6	0.1	0.4
N-PENTANE	0.3	0.0	0.2
ISOPENTANE	0.2	TRACE	0.3
CYCLOPENTANE	0.1	TRACE	0.1
HEXANES PLUS	0.3	0.1	0.2
NITROGEN	32.5	24.9	2.6
OXYGEN	TRACE	0.0	TRACE
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.1	0.5
HELIUM	1.24	0.88	0.16
HEATING VALUE*	841	788	1103
SPECIFIC GRAVITY	0.792	0.678	0.647

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 37 SAMPLE 15563	INDEX 38 SAMPLE 15837	INDEX 39 SAMPLE 15627
STATE	KANSAS	KANSAS	KANSAS
COUNTY	MORTON	STEVENS	SUMNER
FIELD	WINTER	WILDCAT	LATTA PROSPECT
WELL NAME	WINTER NO. C-2	HOLT NO. 1	HIRTH NO. 1
LOCATION	SEC. 30, T33S, R42W	SEC. 20, T32S, R37W	SEC. 21, T30S, R2W
OWNER	CITIES SERVICE CO.	MOBIL OIL CORP.	TEXAS OIL & GAS CORP.
COMPLETED	NOT GIVEN	04/09/79	11/11/78
SAMPLED	02/02/79	11/15/79	05/29/79
FORMATION	PENN-MORROW	PENN-MORROW	PENN-STALNAKER
GEOLOGIC PROVINCE CODE	360	360	375
DEPTH, FEET	4559	5639	2830
WELLHEAD PRESSURE,PSIG	1258	1253	938
OPEN FLOW, MCFD	3247	18229	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	68.2	82.2	85.3
ETHANE	4.8	4.7	4.8
PROPANE	3.9	2.8	2.6
N-BUTANE	0.9	0.9	0.8
ISOBUTANE	0.4	0.4	0.4
N-PENTANE	0.2	0.3	0.3
ISOPENTANE	0.3	0.3	0.2
CYCLOPENTANE	0.1	TRACE	TRACE
HEXANES PLUS	0.2	0.2	0.1
NITROGEN	20.4	7.6	5.2
OXYGEN	TRACE	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	0.0	0.1
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.2	TRACE
HELIUM	0.55	0.28	0.20
HEATING VALUE*	957	1069	1085
SPECIFIC GRAVITY	0.736	0.673	0.655

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 40 SAMPLE 15725	INDEX 41 SAMPLE 15554	INDEX 42 SAMPLE 15620
STATE	KANSAS	LOUISIANA	LOUISIANA
COUNTY	SUMNER	ALLEN	CALDWELL
FIELD	LATTA SW	LYLES	BANK SPRINGS SW
WELL NAME	REIN BECK NO. 1	ALLEN NO. 1	PARKER NO. 1
LOCATION	SEC. 20, T30S, R2W	SEC. 7, T6S, R4W	SEC. 35, T13N, R3E
OWNER	SANDERS OIL CO.	GETTY OIL CO.	MARLIN EXPLORATION, INC.
COMPLETED	NOT GIVEN	03/31/78	08/21/78
SAMPLED	08/08/79	01/15/79	05/15/79
FORMATION	PENN-STALNAKER	EOCE-WILCOX	EOCE-WILCOX
GEOLOGIC PROVINCE CODE	375	220	230
DEPTH, FEET	2871	12576	2306
WELLHEAD PRESSURE,PSIG	960	7400	860
OPEN FLOW, MCFD	5000	2000	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	85.1	80.9	96.8
ETHANE	4.8	9.3	0.1
PROPANE	2.6	5.0	0.1
N-BUTANE	0.9	1.0	0.0
ISOBUTANE	0.5	0.8	0.0
N-PENTANE	0.3	0.2	0.0
ISOPENTANE	0.2	0.2	0.0
CYCLOPENTANE	0.1	TRACE	0.0
HEXANES PLUS	0.2	0.1	0.0
NITROGEN	5.0	0.7	0.0
OXYGEN	0.0	0.1	2.7
ARGON	0.0	TRACE	0.0
HYDROGEN	0.0	0.1	TRACE
HYDROGEN SULFIDE**	0.0	0.0	TRACE
CARBON DIOXIDE	0.1	1.6	0.0
HELIUM	0.20	TRACE	0.2
HEATING VALUE*	1098	1199	0.03
SPECIFIC GRAVITY	0.663	0.707	985 0.568

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 43 SAMPLE 15621	INDEX 44 SAMPLE 15722	INDEX 45 SAMPLE 15589
STATE	LOUISIANA	LOUISIANA	LOUISIANA
PARISH	CALDWELL	CAMERON	CAMERON
FIELD	PINEY CREEK	BACKRIDGE	KINGS BAYOU
WELL NAME	RUSSELL NO. 2	J. A. DAVIS NO. 1	E. M. STEWART NO. 1
LOCATION	SEC. 8, T12N, R3E	SEC. 26, T14S, R9W	SEC. 1, T15S, R7W
OWNER	MARLIN EXPLORATION, INC.	PEND OREILLE OIL & GAS CO.	HOUSTON OIL & MINERALS CORP.
COMPLETED	10/27/78	07/01/79	09/30/78
SAMPLED	05/15/79	08/10/79	03/23/79
FORMATION	EOCE-WILCOX	PLIO-CLARKE	MIOC-PLANULINA
GEOLOGIC PROVINCE CODE	230	220	220
DEPTH, FEET	2623	13353	11580
WELLHEAD PRESSURE,PSIG	1120	8400	6800
OPEN FLOW, MCFD	NOT GIVEN	21500	3000
COMPONENT, MOLE PCT			
METHANE	97.2	89.3	89.5
ETHANE	0.1	6.3	3.6
PROPANE	TRACE	1.8	0.9
N-BUTANE	0.0	0.3	0.2
ISOBUTANE	0.0	0.5	0.2
N-PENTANE	0.0	0.1	0.1
ISOPENTANE	0.0	0.1	0.1
CYCLOPENTANE	0.0	TRACE	TRACE
HEXANES PLUS	0.0	0.1	0.1
NITROGEN	2.4	0.3	3.5
OXYGEN	0.1	0.0	0.8
ARGON	TRACE	0.0	TRACE
HYDROGEN	0.1	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	TRACE	1.0	0.7
HELIUM	0.03	TRACE	TRACE
HEATING VALUE*	987	1105	1022
SPECIFIC GRAVITY	0.564	0.632	0.618

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 46 SAMPLE 15569	INDEX 47 SAMPLE 15646	INDEX 48 SAMPLE 15622
STATE	LOUISIANA	LOUISIANA	LOUISIANA
PARISH	IBERVILLE	JACKSON	LAFAYETTE
FIELD	GROSSE TETE	CLEAR BRANCH	ANSELM COULEE
WELL NAME	WILBERTS "C" NO. 1	H. S. SMITH NO. 1	E. RICHARD NO. 1
LOCATION	SEC. 22, T8S, R11E	SEC. 2, T14N, R2W	SEC. 10, T11S, R4E
OWNER	GOLDKING PRODUCTION CO.	HUNT PETROLEUM CORP.	REB PETROLEUM CO.
COMPLETED	12/02/75	07/22/78	05/14/79
SAMPLED	02/19/79	06/12/79	05/10/79
FORMATION	PENN-ROWE	CRET-HOSSTON	NOT GIVEN
GEOLOGIC PROVINCE CODE	220	230	220
DEPTH, FEET	10448	9828	12694
WELLHEAD PRESSURE,PSIG	NOT GIVEN	3900	6015
OPEN FLOW, MCFD	NOT GIVEN	6900	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	86.8	92.5	89.1
ETHANE	6.9	0.1	6.2
PROPANE	3.5	TRACE	2.3
N-BUTANE	0.7	0.0	0.5
ISOBUTANE	0.7	0.0	0.5
N-PENTANE	0.2	0.0	0.2
ISOPENTANE	0.3	0.0	0.1
CYCLOPENTANE	0.1	0.0	TRACE
HEXANES PLUS	0.2	0.0	0.2
NITROGEN	0.4	1.4	0.3
OXYGEN	0.0	0.0	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	TRACE	0.1
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	5.8	0.5
HELIUM	TRACE	0.03	TRACE
HEATING VALUE*	1176	939	1130
SPECIFIC GRAVITY	0.665	0.616	0.640

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 49 SAMPLE 15747		INDEX 50 SAMPLE 15850		INDEX 51 SAMPLE 15711	
STATE	LOUISIANA		LOUISIANA		LOUISIANA	
PARISH	LAFOURCHE		LINCOLN		LINCOLN	
FIELD	LAKE BOEUF		CLAY		HICO-KNOWLES	
WELL NAME	SABINE ROYALTY CORP. NO. 1		BENNETT NO.1		RAY E. UPCHURCH NO. 1	
LOCATION	SEC. 29, T18S, R18E		SEC. 2, T17N,R3W		SEC. 7, T19N, R3W	
OWNER	MCMORAN EXPLORATION CO.		ARKLA EXPLORATION CO.		I.M.C. EXPLORATION CO.	
COMPLETED	05/--/78		06/18/79		03/08/79	
SAMPLED	09/12/79		12/06/79		07/25/79	
FORMATION	NOT GIVEN		CRET-HOSSTON		JURA-COTTON VALLEY	
GEOLOGIC PROVINCE CODE	220		230		230	
DEPTH, FEET	9510		8189		9466	
WELLHEAD PRESSURE,PSIG	3100		3375		4800	
OPEN FLOW, MCFD	650		2300		500	
COMPONENT, MOLE PCT						
METHANE	93.6	----------	96.0	----------	86.3	----------
ETHANE	2.9	----------	0.8	----------	7.2	----------
PROPANE	1.2	----------	0.1	----------	2.7	----------
N-BUTANE	0.3	----------	0.1	----------	0.6	----------
ISOBUTANE	0.4	----------	TRACE	----------	0.5	----------
N-PENTANE	0.1	----------	TRACE	----------	0.2	----------
ISOPENTANE	0.1	----------	TRACE	----------	0.2	----------
CYCLOPENTANE	0.2	----------	TRACE	----------	TRACE	----------
HEXANES PLUS	0.3	----------	0.1	----------	0.2	----------
NITROGEN	0.7	----------	1.2	----------	0.5	----------
OXYGEN	TRACE	----------	0.0	----------	0.0	----------
ARGON	TRACE	----------	TRACE	----------	0.0	----------
HYDROGEN	0.0	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE**	0.0	----------	0.0	----------	1.5	----------
CARBON DIOXIDE	0.2	----------	1.6	----------	0.01	----------
HELIUM	TRACE	----------	0.04	----------	1138	----------
HEATING VALUE*	1084	----------	998	----------	0.662	----------
SPECIFIC GRAVITY	0.611	----------	0.583	----------		----------

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 52 SAMPLE 15712	INDEX 53 SAMPLE 15738	INDEX 54 SAMPLE 15626
STATE	LOUISIANA	LOUISIANA	LOUISIANA
PARISH	LINCOLN	ST. LANDRY	ST. MARTIN
FIELD	TERRYVILLE	MONCRIEF	HAPPYTOWN
WELL NAME	LORAINE HOWARD ESTATE NO. 1	TURNER LUMBER CO. NO. 1	IBERVILLE LAND CO. NO. 1
LOCATION	SEC. 32, T19N, R4W	SEC. 4, T3S, R6E	SEC.120, T7S, R8E
OWNER	I.M.C. EXPLORATION CO.	GULF OIL CORP.	DOW CHEMICAL CO.
COMPLETED	10/26/78	10/10/77	05/29/77
SAMPLED	07/25/79	08/30/79	05/24/79
FORMATION	CRET-HOSSTON	CRET-TUSCALOOSA	OLIG-FRIO
GEOLOGIC PROVINCE CODE	230	220	220
DEPTH, FEET	9367	16498	10668
WELLHEAD PRESSURE,PSIG	3600	5740	3350
OPEN FLOW, MCFD	250	7500	2375
COMPONENT, MOLE PCT			
METHANE	86.2	89.2	87.5
ETHANE	3.4	3.3	5.4
PROPANE	1.7	0.7	3.1
N-BUTANE	0.5	0.2	0.9
ISOBUTANE	1.5	0.2	0.9
N-PENTANE	0.8	0.1	0.3
ISOPENTANE	0.8	TRACE	0.5
CYCLOPENTANE	0.4	TRACE	0.1
HEXANES PLUS	2.4	0.1	0.3
NITROGEN	0.4	0.6	0.6
OXYGEN	TRACE	0.0	0.0
ARGON	0.0	TRACE	0.0
HYDROGEN	TRACE	0.0	0.3
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.8	5.6	TRACE
HELIUM	0.02	0.01	0.01
HEATING VALUE*	1252	1004	1178
SPECIFIC GRAVITY	0.734	0.645	0.665

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 55 SAMPLE 15798		INDEX 56 SAMPLE 15746		INDEX 57 SAMPLE 15749	
STATE	LOUISIANA		MICHIGAN		MICHIGAN	
PARISH	VERMILION		GRAND TRAVERSE		KALKASKA	
FIELD	GUEYDAN SW		MAXFIELD		BLUE LAKE	
WELL NAME	GARDINER NO. 1		SCHAUB NO. 6		RICHMAN STATE-BLUE NO. 5	
LOCATION	SEC. 14, T12S, R2W		SEC. 13, T25N, R11W		SEC. 23, T28N, R5W	
OWNER	MCALESTER FUEL CO.		SHELL OIL CO.		SHELL OIL CO.	
COMPLETED	03/23/79		04/13/78		12/20/77	
SAMPLED	10/02/79		09/07/79		09/05/79	
FORMATION	OLIG-ALLIANCE		SILU-NIAGARA		SILU-NIAGARA	
GEOLOGIC PROVINCE CODE	220		305		305	
DEPTH, FEET	11610		6594		6785	
WELLHEAD PRESSURE,PSIG	3668		2250		1480	
OPEN FLOW, MCFD	8000		3619		NOT GIVEN	
COMPONENT, MOLE PCT						
METHANE	93.6	----------	87.3	----------	73.1	----------
ETHANE	3.1	----------	5.8	----------	5.0	----------
PROPANE	1.1	----------	2.5	----------	2.5	----------
N-BUTANE	0.3	----------	0.9	----------	0.9	----------
ISOBUTANE	0.5	----------	1.4	----------	1.3	----------
N-PENTANE	0.2	----------	0.2	----------	0.4	----------
ISOPENTANE	0.2	----------	0.4	----------	0.4	----------
CYCLOPENTANE	0.1	----------	TRACE	----------	0.1	----------
HEXANES PLUS	0.2	----------	0.2	----------	0.4	----------
NITROGEN	0.4	----------	0.9	----------	12.7	----------
OXYGEN	0.0	----------	TRACE	----------	3.0	----------
ARGON	0.0	----------	TRACE	----------	0.1	----------
HYDROGEN	0.0	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE**	0.0	----------	0.0	----------	0.0	----------
CARBON DIOXIDE	0.5	----------	0.3	----------	0.2	----------
HELIUM	TRACE	----------	0.02	----------	0.01	----------
HEATING VALUE*	1090	----------	1166	----------	1027	----------
SPECIFIC GRAVITY	0.615	----------	0.666	----------	0.737	----------

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 58 SAMPLE 15750	INDEX 59 SAMPLE 15748	INDEX 60 SAMPLE 15599
STATE	MICHIGAN	MICHIGAN	MISSISSIPPI
COUNTY	MANISTEE	WEXFORD	MADISON
FIELD	CLEON	WEXFORD	GLUCKSTAD
WELL NAME	OROTLEFF NO. 1	MIDDAUGH NO. 2	D. R. YANDALL NO. 1
LOCATION	SEC. 31, T24N, R13W	SEC. 4, T24N, R12W	NOT GIVEN
OWNER	SHELL OIL CO.	SHELL OIL CO.	TEXAS PACIFIC OIL CO. INC.
COMPLETED	11/18/77	01/24/78	12/18/78
SAMPLED	09/07/79	09/07/79	04/07/79
FORMATION	SILU-NIAGARA	NOT GIVEN	JURA-NORPHLET
GEOLOGIC PROVINCE CODE	305	305	210
DEPTH, FEET	5262	6095	16050
WELLHEAD PRESSURE,PSIG	2025	NOT GIVEN	6800
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	5000
COMPONENT, MOLE PCT			
METHANE	81.7	83.5	0.9
ETHANE	7.9	8.1	0.1
PROPANE	4.1	3.7	TRACE
N-BUTANE	1.3	0.8	TRACE
ISOBUTANE	1.5	1.2	0.0
N-PENTANE	0.5	0.2	TRACE
ISOPENTANE	0.5	0.3	TRACE
CYCLOPENTANE	0.1	TRACE	TRACE
HEXANES PLUS	0.5	0.2	0.1
NITROGEN	1.7	1.9	0.4
OXYGEN	0.0	TRACE	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	TRACE	98.5
HELIUM	0.04	0.03	TRACE
HEATING VALUE*	1242	1186	16
SPECIFIC GRAVITY	0.718	0.684	1.519

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 61 SAMPLE 15761		INDEX 62 SAMPLE 15797		INDEX 63 SAMPLE 15787	
STATE	NEVADA		NEW MEXICO		NEW MEXICO	
COUNTY	WASHOE		EDDY		EDDY	
FIELD	NOT GIVEN		TELEDYNE AREA		WILDCAT	
WELL NAME	GAS SEEP		PARDUE FARMS NO. 1		MCCAW NO. 1-6	
LOCATION	MARBLE BLUFF DAM		SEC. 26, T23S, R28E		SEC. 8, T17S, R24E	
OWNER	INDIAN RESERVATION		AMOCO PRODUCTION CO.		BEARD OIL CO.	
COMPLETED	NOT GIVEN		06/28/78		10/--/78	
SAMPLED	09/19/79		09/29/79		09/26/79	
FORMATION	NOT GIVEN		PENN-STRAWN		PENN-ATOKA	
GEOLOGIC PROVINCE CODE	620		430		430	
DEPTH, FEET	2		11484		7032	
WELLHEAD PRESSURE,PSIG	NOT GIVEN		NOT GIVEN		800	
OPEN FLOW, MCFD	NOT GIVEN		3250		3733	
COMPONENT, MOLE PCT						
METHANE	0.5	----------	63.3	----------	91.1	----------
ETHANE	0.0		15.8		4.4	
PROPANE	0.0	----------	9.2	----------	1.6	----------
N-BUTANE	0.0		3.1		0.4	
ISOBUTANE	0.0	----------	3.3	----------	0.4	----------
N-PENTANE	0.0		1.1		0.1	
ISOPENTANE	0.0	----------	1.4	----------	0.2	----------
CYCLOPENTANE	0.0		0.2		TRACE	
HEXANES PLUS	0.0	----------	1.6	----------	0.2	----------
NITROGEN	97.3		0.5		1.1	
OXYGEN	0.0	----------	0.1	----------	0.0	----------
ARGON	1.0		0.0		TRACE	
HYDROGEN	0.0	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	1.2	----------	0.3	----------	0.4	----------
HELIUM	TRACE		TRACE		0.07	
HEATING VALUE*	5	----------	1575	----------	1093	----------
SPECIFIC GRAVITY	0.976		0.918		0.623	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 64 SAMPLE 15796	INDEX 65 SAMPLE 15558	INDEX 66 SAMPLE 15716
STATE	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY	EDDY	EDDY	EDDY
FIELD	WILDCAT	WILDCAT	WILDCAT
WELL NAME	TELEDYNE 17 NO. 1	POLK "A" NO. 1	LITTLE SQUAW NO. 1
LOCATION	SEC. 17, T23S, R29E	SEC. 17, T23S, R28E	SEC. 27, T22S, R28E
OWNER	AMOCO PRODUCTION CO.	CITIES SERVICE CO.	J. C. BARNES OIL CO.
COMPLETED	09/12/78	08/25/78	07/30/79
SAMPLED	09/29/78	01/26/79	07/30/79
FORMATION	PENN-ATOKA	PENN-MORROW	PENN-MORROW
GEOLOGIC PROVINCE CODE	430	430	430
DEPTH, FEET	12028	12076	12198
WELLHEAD PRESSURE,PSIG	NOT GIVEN	4135	NOT GIVEN
OPEN FLOW, MCFD	3670	7498	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	92.9	95.3	96.9
ETHANE	2.1	2.4	1.3
PROPANE	0.4	0.4	0.1
N-BUTANE	0.1	0.1	0.1
ISOBUTANE	0.1	TRACE	0.0
N-PENTANE	0.1	TRACE	TRACE
ISOPENTANE	TRACE	TRACE	TRACE
CYCLOPENTANE	0.1	TRACE	TRACE
HEXANES PLUS	0.2	0.1	0.1
NITROGEN	3.0	0.4	0.3
OXYGEN	0.6	0.1	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.1	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.5	1.1	1.2
HELIUM	0.02	0.02	0.02
HEATING VALUE*	1014	1028	1016
SPECIFIC GRAVITY	0.602	0.587	0.579

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 67 SAMPLE 15557		INDEX 68 SAMPLE 15730		INDEX 69 SAMPLE 15707	
STATE	NEW MEXICO		NEW MEXICO		NEW MEXICO	
COUNTY	EDDY		LAGUNA		LEA	
FIELD	WILDCAT		LAGUNA DEEP FEDERAL NO. 1		LANGLEY	
WELL NAME	POLK "A" NO. 1		SEC. 35, T19S, R33E		LANGLEY DEEP NO. 1	
LOCATION	SEC. 17, T23S, R28E		UNION OIL CO. OF CALIF.		SEC. 28, T22S, R36E	
OWNER	CITIES SERVICE CO.		02/03/79		AMCO OIL & GAS CO.	
COMPLETED	08/25/78		08/24/79		04/07/78	
SAMPLED	01/26/79		PENN-MORROW		07/25/79	
FORMATION	PENN-STRAWN		430		ORDO-ELLENBURGER	
GEOLOGIC PROVINCE CODE	430		13365		430	
DEPTH, FEET	11152		4250		15320	
WELLHEAD PRESSURE,PSIG	5630		2088		1550	
OPEN FLOW, MCFD	2221				1700	
COMPONENT, MOLE PCT						
METHANE	93.7	----------	84.8	----------	83.4	----------
ETHANE	3.3	----------	7.8	----------	8.8	----------
PROPANE	0.7	----------	3.3	----------	3.6	----------
N-BUTANE	0.2	----------	0.8	----------	1.1	----------
ISOBUTANE	0.1	----------	0.7	----------	0.5	----------
N-PENTANE	0.1	----------	0.4	----------	0.4	----------
ISOPENTANE	0.1	----------	0.2	----------	0.2	----------
CYCLOPENTANE	TRACE	----------	0.2	----------	TRACE	----------
HEXANES PLUS	0.1	----------	0.6	----------	0.2	----------
NITROGEN	0.6	----------	0.9	----------	1.5	----------
OXYGEN	0.1	----------	TRACE	----------	TRACE	----------
ARGON	TRACE	----------	0.0	----------	TRACE	----------
HYDROGEN	0.1	----------	TRACE	----------	TRACE	----------
HYDROGEN SULFIDE**	0.0	----------	0.0	----------	0.0	----------
CARBON DIOXIDE	0.8	----------	0.4	----------	0.1	----------
HELIUM	0.02	----------	0.02	----------	0.07	----------
HEATING VALUE*	1051	----------	1199	----------	1186	----------
SPECIFIC GRAVITY	0.598		0.687		0.681	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 70 SAMPLE 15848		INDEX 71 SAMPLE 15844		INDEX 72 SAMPLE 15843	
STATE	NEW MEXICO		NEW YORK		NEW YORK	
COUNTY	LEA		CATTARAUGUS		CATTARAUGUS	
FIELD	SHOEBAR		NOT GIVEN		UTLEY BROOK	
WELL NAME	NEW MEXICO STATE 28 NO. 1		SEEP		ZOAR VALLEY NO. 1163A	
LOCATION	SEC. 28, T16S, R35E		TOWN OF OTTO		TOWN OF OTTO	
OWNER	HNG OIL CO.		WESLEY FARNER		FLINT OIL & GAS, INC.	
COMPLETED	07/25/79		NOT GIVEN		06/06/77	
SAMPLED	11/20/79		11/15/79		11/15/79	
FORMATION	PENN-ATOKA		NOT GIVEN		SILU-MEDINA	
GEOLOGIC PROVINCE CODE	430		160		160	
DEPTH, FEET	12453		NOT GIVEN		2700	
WELLHEAD PRESSURE,PSIG	4325		NOT GIVEN		1000	
OPEN FLOW, MCFD	8173		NOT GIVEN		NOT GIVEN	
COMPONENT, MOLE PCT						
METHANE	88.2	----------	71.2	----------	91.5	----------
ETHANE	6.6		0.3		2.3	
PROPANE	2.1	----------	TRACE	----------	0.2	----------
N-BUTANE	0.4		TRACE		0.1	
ISOBUTANE	0.3	----------	0.0	----------	0.0	----------
N-PENTANE	0.1		TRACE		0.0	
ISOPENTANE	0.3	----------	TRACE	----------	0.1	----------
CYCLOPENTANE	0.1		TRACE		TRACE	
HEXANES PLUS	0.2	----------	TRACE	----------	0.1	----------
NITROGEN	1.3		27.8		5.5	
OXYGEN	0.0	----------	TRACE	----------	TRACE	----------
ARGON	0.0		0.5		TRACE	
HYDROGEN	0.0	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	0.4	----------	0.2	----------	TRACE	----------
HELIUM	0.03		0.02		0.18	
HEATING VALUE*	1121	----------	727	----------	986	----------
SPECIFIC GRAVITY	0.642		0.677		0.596	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 73 SAMPLE 15842	INDEX 74 SAMPLE 15682	INDEX 75 SAMPLE 15559
STATE	NEW YORK	NEW YORK	NEW YORK
COUNTY	CATTARAUGUS	CAYUGA	CHAUTAUQUA
FIELD	UTLEY BROOK	AUBURN W	BUSTI GAS
WELL NAME	ZOAR VALLEY NO. 1163A	FEE NO. 1	HOLLIDAY NO. 1
LOCATION	UTLEY BROOK	UNION SPRINGS TOWNSHIP	TOWN OF BUSTI
OWNER	FLINT OIL & GAS, INC.	N.Y. CONFERENCE OF 7 DAY ADV	BOUNTY OIL & GAS
COMPLETED	06/06/77	04/18/78	07/16/78
SAMPLED	11/15/79	06/29/79	01/30/79
FORMATION	DEVO-SHALE	ORDO-QUEENSTON	SILU-MEDINA
GEOLOGIC PROVINCE CODE	160	160	160
DEPTH, FEET	300	1950	4446
WELLHEAD PRESSURE,PSIG	120	610	NOT GIVEN
OPEN FLOW, MCFD	NOT GIVEN	441	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	83.6	96.3	89.8
ETHANE	10.1	1.5	3.5
PROPANE	3.1	0.1	0.8
N-BUTANE	0.7	TRACE	0.3
ISOBUTANE	0.2	0.0	0.1
N-PENTANE	0.2	TRACE	0.2
ISOPENTANE	0.1	0.0	0.1
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.1	0.1	0.2
NITROGEN	1.5	1.5	4.7
OXYGEN	0.0	0.0	TRACE
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.4	0.1
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	0.1	TRACE
HELIUM	0.06	0.11	0.13
HEATING VALUE*	1157	1011	1030
SPECIFIC GRAVITY	0.666	0.571	0.614

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 76 SAMPLE 15637	INDEX 77 SAMPLE 15793	INDEX 78 SAMPLE 15813
STATE	NEW YORK	NEW YORK	NEW YORK
COUNTY	CHAUTAUQUA	CHAUTAUQUA	CHAUTAUQUA
FIELD	LAKE SHORE	LAKE SHORE	LAKE SHORE
WELL NAME	ROBERTSON NO. 540	MID MEADOWS UNIT 406	KNIGHT-KOFOED 31-013-14420
LOCATION	ARKWRIGHT TOWNSHIP	TOWN OF CHAUTAUQUA	TOWN OF RIPLEY
OWNER	PARAGON RESOURCES, INC.	PARAGON RESOURCES, INC.	J. M. RESOURCES
COMPLETED	05/03/79	05/10/77	10/02/79
SAMPLED	06/01/79	09/27/79	10/25/79
FORMATION	NOT GIVEN	SILU-MEDINA	SILU-MEDINA
GEOLOGIC PROVINCE CODE	160	160	160
DEPTH, FEET	NOT GIVEN	3400	2500
WELLHEAD PRESSURE,PSIG	NOT GIVEN	NOT GIVEN	730
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	87.0	92.3	91.0
ETHANE	5.7	3.2	3.4
PROPANE	1.7	0.4	0.6
N-BUTANE	0.4	0.1	0.2
ISOBUTANE	0.1	TRACE	0.1
N-PENTANE	0.1	0.1	TRACE
ISOPENTANE	0.1	TRACE	0.1
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.1	0.1	0.1
NITROGEN	4.0	3.6	4.3
OXYGEN	0.0	0.0	0.0
ARGON	0.1	TRACE	TRACE
HYDROGEN	0.5	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	TRACE	TRACE
HELIUM	0.23	0.15	0.15
HEATING VALUE*	1060	1015	1018
SPECIFIC GRAVITY	0.629	0.594	0.603

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 79 SAMPLE 15562		INDEX 80 SAMPLE 15588		INDEX 81 SAMPLE 15794	
STATE	NEW YORK		NEW YORK		NEW YORK	
COUNTY	CHAUTAUQUA		CHAUTAUQUA		CHAUTAUQUA	
FIELD	LAKE SHORE		LAKE SHORE		LAKE SHORE	
WELL NAME	R. CASH UNIT NO. 1		ASSUMPTION NO. 104		NOTARO UNIT 505	
LOCATION	TOWN OF ARKWRIGHT		POMFRET TWP.		TOWN OF CHAUTAUQUA	
OWNER	PARAGON RESOURCES, INC.		PARAGON RESOURCES, INC.		PARAGON RESOURCES, INC.	
COMPLETED	09/05/74		10/22/74		05/20/77	
SAMPLED	02/07/79		03/23/79		09/27/79	
FORMATION	DEVO-SHALE		DEVO-SHALE		DEVO-SHALE	
GEOLOGIC PROVINCE CODE	160		160		160	
DEPTH, FEET	2500		3180		NOT GIVEN	
WELLHEAD PRESSURE,PSIG	70		NOT GIVEN		145	
OPEN FLOW, MCFD	116		NOT GIVEN		NOT GIVEN	
COMPONENT, MOLE PCT						
METHANE	82.9	----------	83.9	----------	86.0	----------
ETHANE	9.1		8.4		6.4	
PROPANE	3.7	----------	3.4	----------	2.7	----------
N-BUTANE	1.1		0.7		0.7	
ISOBUTANE	0.3	----------	0.2	----------	0.3	----------
N-PENTANE	0.2		0.1		0.2	
ISOPENTANE	0.2	----------	0.1	----------	0.1	----------
CYCLOPENTANE	0.1		TRACE		TRACE	
HEXANES PLUS	0.1	----------	0.1	----------	0.1	----------
NITROGEN	1.8		2.3		2.7	
OXYGEN	0.0	----------	0.1	----------	TRACE	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	0.3	----------	0.4	----------	0.6	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	TRACE	----------	0.1	----------	TRACE	----------
HELIUM	0.15		0.15		0.17	
HEATING VALUE*	1173	----------	1134	----------	1110	----------
SPECIFIC GRAVITY	0.675		0.658		0.644	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 82 SAMPLE 15686	INDEX 83 SAMPLE 15635	INDEX 84 SAMPLE 15812
STATE	NEW YORK	NEW YORK	NEW YORK
COUNTY	CHAUTAUQUA	CHAUTAUQUA	CHAUTAUQUA
FIELD	LAKESHORE	NOT GIVEN	RIPLEY
WELL NAME	MANCUSO NO. 1, 31-013-13209	S. Z. PAK NO. 1 31-013-12717	KNIGHT-KOFOED 31-013-14420
LOCATION	CHARLOTTE TOWNSHIP	POMFRET TOWNSHIP	TOWN OF RIPLEY
OWNER	DESERT GAS EXPLORATION	GAILBERT EXPLORATIONS	J. M. RESOURCES
COMPLETED	NOT GIVEN	05/22/77	10/02/79
SAMPLED	07/05/79	06/01/79	10/25/79
FORMATION	DEVO-SHALES	DEVO-ONONDAGA	DEVO-SHALE
GEOLOGIC PROVINCE CODE	160	160	160
DEPTH, FEET	1700	1025	460
WELLHEAD PRESSURE,PSIG	NOT GIVEN	510	100
OPEN FLOW, MCFD	NOT GIVEN	25000	3
COMPONENT, MOLE PCT			
METHANE	85.8	81.2	80.0
ETHANE	7.5	11.0	10.4
PROPANE	2.9	3.8	4.7
N-BUTANE	0.7	0.7	1.1
ISOBUTANE	0.2	0.2	0.3
N-PENTANE	0.1	0.2	0.2
ISOPENTANE	0.1	0.1	0.2
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.1	0.1	0.1
NITROGEN	2.3	2.1	2.4
OXYGEN	TRACE	TRACE	0.1
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.2	0.2	0.4
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	TRACE	0.2	TRACE
HELIUM	0.10	0.17	0.05
HEATING VALUE*	1122	1167	1189
SPECIFIC GRAVITY	0.648	0.678	0.692

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 85 SAMPLE 15566	INDEX 86 SAMPLE 15567	INDEX 87 SAMPLE 15641
STATE	NEW YORK	NEW YORK	NEW YORK
COUNTY	CHAUTAUQUA	CHAUTAUQUA	ERIE
FIELD	WILDCAT	WILDCAT	AKRON
WELL NAME	MILLER NO. 1	MILLER NO. 1	FEE NO. 1
LOCATION	TOWN OF KIANTONE	TOWN OF KIANTONE	NEWSTEAD TOWNSHIP
OWNER	SEIS-EX GEOPHYSICAL, LTD.	SEIS-EX GEOPHYSICAL, LTD.	AKRON CENTRAL SCHOOL
COMPLETED	01/--/79	01/--/79	05/12/79
SAMPLED	02/14/79	02/14/79	06/08/79
FORMATION	DEVO-GLADE	SILU-MEDINA	SILU-MEDINA
GEOLOGIC PROVINCE CODE	160	160	160
DEPTH, FEET	500	4500	800
WELLHEAD PRESSURE,PSIG	380	NOT GIVEN	405
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	1350
COMPONENT, MOLE PCT			
METHANE	91.4	92.7	85.6
ETHANE	4.0	2.6	8.0
PROPANE	0.8	0.3	1.9
N-BUTANE	0.2	TRACE	0.3
ISOBUTANE	TRACE	TRACE	0.2
N-PENTANE	0.1	TRACE	0.1
ISOPENTANE	0.1	TRACE	0.1
CYCLOPENTANE	TRACE	0.0	TRACE
HEXANES PLUS	0.1	0.1	0.1
NITROGEN	3.0	4.1	3.4
OXYGEN	TRACE	TRACE	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.2	0.1	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	TRACE	TRACE	0.1
HELIUM	0.11	0.08	0.23
HEATING VALUE*	1039	999	1090
SPECIFIC GRAVITY	0.603	0.589	0.641

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 88 SAMPLE 15841	INDEX 89 SAMPLE 15808	INDEX 90 SAMPLE 15634
STATE	NEW YORK	NEW YORK	NORTH DAKOTA
COUNTY	ERIE	LIVINGSTON	MCKENZIE
FIELD	BUFFALO	WILDCAT	CHERRY CREEK
WELL NAME	FEE NO. 1	EVERMAN-FEE NO. 1	PETERSON NO. 1
LOCATION	CHEEKTOWAGA	WEST SPARTA, N.Y.	SEC. 10, T149N, R99W
OWNER	MOTHER OF DIVINE CHURCH	H. EVERMAN	ALPAR RESOURCES INC.
COMPLETED	NOT GIVEN	NOT GIVEN	09/29/78
SAMPLED	11/16/79	10/15/79	05/29/79
FORMATION	SILU-LOCKPORT	DEVO-HAMILTON	ORDO-RED RIVER
GEOLOGIC PROVINCE CODE	160	160	395
DEPTH, FEET	NOT GIVEN	600	14034
WELLHEAD PRESSURE,PSIG	NOT GIVEN	150	5000
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	7200
COMPONENT, MOLE PCT			
METHANE	84.2	93.7	83.0
ETHANE	6.2	0.2	7.1
PROPANE	1.1	TRACE	2.0
N-BUTANE	0.2	0.1	0.5
ISOBUTANE	0.2	TRACE	0.6
N-PENTANE	0.1	TRACE	0.2
ISOPENTANE	0.1	TRACE	0.2
CYCLOPENTANE	TRACE	TRACE	0.1
HEXANES PLUS	0.1	0.1	0.2
NITROGEN	6.6	3.4	0.4
OXYGEN	0.7	0.0	0.0
ARGON	0.1	0.1	TRACE
HYDROGEN	0.1	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	4.1
CARBON DIOXIDE	0.2	2.4	1.5
HELIUM	0.21	0.01	0.03
HEATING VALUE*	1020	961	1114
SPECIFIC GRAVITY	0.642	0.598	0.682

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 91 SAMPLE 15619		INDEX 92 SAMPLE 15623		INDEX 93 SAMPLE 15624	
STATE	NORTH DAKOTA		NORTH DAKOTA		NORTH DAKOTA	
COUNTY	RENVILLE		RENVILLE		RENVILLE	
FIELD	NEWPORTE		NEWPORTE		NEWPORTE	
WELL NAME	MOTT NO. 32-3		LARSON NO. 23X-9		DUERRE NO. 43-5	
LOCATION	NOT GIVEN		NOT GIVEN		NOT GIVEN	
OWNER	SHELL OIL CO.		SHELL OIL CO.		SHELL OIL CO.	
COMPLETED	09/01/78		06/01/78		09/01/78	
SAMPLED	05/09/79		05/09/79		05/09/79	
FORMATION	CAMB-DEADWOOD		CAMB-DEADWOOD		CAMB-DEADWOOD	
GEOLOGIC PROVINCE CODE	395		395		395	
DEPTH, FEET	9146		9574		9516	
WELLHEAD PRESSURE,PSIG	NOT GIVEN		600		NOT GIVEN	
OPEN FLOW, MCFD	NOT GIVEN		NOT GIVEN		NOT GIVEN	
COMPONENT, MOLE PCT						
METHANE	28.4	----------	20.3	----------	15.7	----------
ETHANE	11.5	----------	6.2	----------	3.9	----------
PROPANE	7.8	----------	2.9	----------	2.1	----------
N-BUTANE	2.9	----------	1.3	----------	1.2	----------
ISOBUTANE	1.0	----------	0.4	----------	0.4	----------
N-PENTANE	0.9	----------	0.4	----------	0.6	----------
ISOPENTANE	0.4	----------	0.2	----------	0.2	----------
CYCLOPENTANE	0.1	----------	TRACE	----------	0.1	----------
HEXANES PLUS	0.5	----------	0.2	----------	0.3	----------
NITROGEN	45.3	----------	67.0	----------	74.4	----------
OXYGEN	TRACE	----------	0.1	----------	0.0	----------
ARGON	0.3	----------	0.4	----------	0.3	----------
HYDROGEN	TRACE	----------	0.4	----------	TRACE	----------
HYDROGEN SULFIDE**	0.0	----------	0.0	----------	0.0	----------
CARBON DIOXIDE	0.7	----------	0.1	----------	0.6	----------
HELIUM	0.07	----------	0.17	----------	0.17	----------
HEATING VALUE*	913	----------	487	----------	391	----------
SPECIFIC GRAVITY	0.983	----------	0.936	----------	0.958	----------

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 94 SAMPLE 15807	INDEX 95 SAMPLE 15640	INDEX 96 SAMPLE 15639
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	BEAVER	BEAVER	BEAVER
FIELD	FORGAN	GREENOUGH W	LIBERAL SE
WELL NAME	SIMMONS NO. 1	HUNT LIGHT NO. 2	DICKEY NO. 1
LOCATION	SEC. 26, T6N, R23ECM	SEC. 9, T6N, R21ECM	SEC. 19, T6N, R21ECM
OWNER	ELDER & VAUGHN	J. M. HUBER CORP.	MAGUIRE OIL CO.
COMPLETED	02/13/79	02/21/79	NOT GIVEN
SAMPLED	10/22/79	06/11/79	06/05/79
FORMATION	PENN-MORROW	PENN-MORROW & MISS-CHESTER	NOT GIVEN
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	6048	6103	4300
WELLHEAD PRESSURE,PSIG	1648	1420	460
OPEN FLOW, MCFD	3701	NOT GIVEN	720
COMPONENT, MOLE PCT			
METHANE	88.7	91.2	79.6
ETHANE	5.1	3.9	7.0
PROPANE	2.7	1.8	3.3
N-BUTANE	0.9	0.6	1.0
ISOBUTANE	0.3	0.2	0.4
N-PENTANE	0.2	0.2	0.4
ISOPENTANE	0.4	0.2	0.3
CYCLOPENTANE	0.1	TRACE	0.1
HEXANES PLUS	0.2	0.1	0.3
NITROGEN	1.1	1.2	7.3
OXYGEN	TRACE	TRACE	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	TRACE	0.1
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	0.3	0.1
HELIUM	0.09	0.09	0.28
HEATING VALUE*	1140	1090	1114
SPECIFIC GRAVITY	0.649	0.620	0.697

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 97 SAMPLE 15633		INDEX 98 SAMPLE 15584		INDEX 99 SAMPLE 15592	
STATE	OKLAHOMA		OKLAHOMA		OKLAHOMA	
COUNTY	BEAVER		BECKHAM		BECKHAM	
FIELD	LOGAN		CARPENTER		CARPENTER	
WELL NAME	BELL NO. 1-4		WATKINS NO. 1		WATKINS NO. 2-21	
LOCATION	SEC. 4, T1N, R27 ECM		SEC. 21, T12N, R21W		SEC. 21, T12N, R21W	
OWNER	NORTHERN NATURAL GAS CO.		GHK CO.		GHK CO.	
COMPLETED	NOT GIVEN		05/17/78		09/22/78	
SAMPLED	05/16/79		03/21/79		03/29/79	
FORMATION	PENN-MORROW		PENN-MORROW		PENN-RED FORK	
GEOLOGIC PROVINCE CODE	360		360		360	
DEPTH, FEET	8119		16997		13989	
WELLHEAD PRESSURE,PSIG	1855		11200		7790	
OPEN FLOW, MCFD	2750		32600		15000	
COMPONENT, MOLE PCT						
METHANE	83.3	----------	97.2	----------	92.5	----------
ETHANE	4.3		0.6		4.4	
PROPANE	2.7	----------	0.1	----------	0.8	----------
N-BUTANE	0.8		0.0		0.2	
ISOBUTANE	0.4	----------	0.0	----------	0.1	----------
N-PENTANE	0.2		0.0		TRACE	
ISOPENTANE	0.4	----------	0.0	----------	0.1	----------
CYCLOPENTANE	0.1		0.0		TRACE	
HEXANES PLUS	0.2	----------	0.0	----------	0.1	----------
NITROGEN	4.2		0.3		0.4	
OXYGEN	0.9	----------	0.0	----------	TRACE	----------
ARGON	TRACE		0.0		TRACE	
HYDROGEN	0.1	----------	0.0	----------	TRACE	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	0.5	----------	1.8	----------	1.3	----------
HELIUM	0.06		0.02		0.02	
HEATING VALUE*	1107	----------	998	----------	1056	----------
SPECIFIC GRAVITY	0.677		0.577		0.607	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 100 SAMPLE 15789		INDEX 101 SAMPLE 15713		INDEX 102 SAMPLE 15628	
STATE	OKLAHOMA		OKLAHOMA		OKLAHOMA	
COUNTY	BECKHAM		BLAINE		BLAINE	
FIELD	CARPENTER W		GEARY W		THOMAS S	
WELL NAME	POTTER STATE NO. 1-20		TULSA ROYALTIES NO. 1		LLOYD SCOT NO. 1	
LOCATION	SEC. 20, T12N, R22W		SEC. 4, T14N, R12W		SEC. 6, T14N, R13W	
OWNER	APACHE CORP.		COTTON PETROLEUM CORP.		READING & BATES PETROLEUM CO	
COMPLETED	NOT GIVEN		11/18/78		NOT GIVEN	
SAMPLED	09/25/79		07/26/79		05/18/79	
FORMATION	PENN-ATOKA		PENN-SPRINGER		NOT GIVEN	
GEOLOGIC PROVINCE CODE	360		360		360	
DEPTH, FEET	14590		10883		NOT GIVEN	
WELLHEAD PRESSURE,PSIG	4400		5670		3500	
OPEN FLOW, MCFD	4100		9500		NOT GIVEN	
COMPONENT, MOLE PCT						
METHANE	95.4	----------	91.0	----------	88.1	----------
ETHANE	1.8		5.0		5.9	
PROPANE	0.3	----------	1.9	----------	2.3	----------
N-BUTANE	0.1		0.4		0.5	
ISOBUTANE	0.1	----------	0.2	----------	0.3	----------
N-PENTANE	0.1		0.1		0.1	
ISOPENTANE	TRACE	----------	0.2	----------	0.2	----------
CYCLOPENTANE	TRACE		0.1		0.1	
HEXANES PLUS	0.1	----------	0.2	----------	0.2	----------
NITROGEN	0.7		0.4		1.3	
OXYGEN	0.1	----------	0.0	----------	0.0	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	0.0	----------	0.0	----------	0.9	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	1.3	----------	0.6	----------	0.1	----------
HELIUM	0.02		0.03		0.03	
HEATING VALUE*	1023	----------	1108	----------	1115	----------
SPECIFIC GRAVITY	0.590		0.628		0.633	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 103 SAMPLE 15629	INDEX 104 SAMPLE 15694	INDEX 105 SAMPLE 15740
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	BLAINE	CIMARRON	CUSTER
FIELD	THOMAS S	GRIGGS NE	INDIANAPOLIS
WELL NAME	PERKINS NO. 1	ZIMMERMAN NO. 1	STEHR NO. 1
LOCATION	SEC. 7, T14N, R13W	SEC. 11, T2N, R9ECM	SEC. 21, T13N, R16W
OWNER	READING & BATES PETROLEUM CO	ARGONAUT ENERGY CORP.	AN-SON CORP.
COMPLETED	NOT GIVEN	NOT GIVEN	07/24/79
SAMPLED	05/22/79	07/10/79	09/06/79
FORMATION	NOT GIVEN	PENN-MORROW	PENN-ATOKA
GEOLOGIC PROVINCE CODE	360	435	360
DEPTH, FEET	NOT GIVEN	5000	13217
WELLHEAD PRESSURE,PSIG	3500	NOT GIVEN	NOT GIVEN
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	1200
COMPONENT, MOLE PCT			
METHANE	83.8	86.2	86.8
ETHANE	8.1	5.9	7.5
PROPANE	4.2	2.8	2.8
N-BUTANE	1.0	0.8	0.5
ISOBUTANE	0.6	0.3	0.5
N-PENTANE	0.2	0.3	0.2
ISOPENTANE	0.3	0.2	0.2
CYCLOPENTANE	0.1	0.1	TRACE
HEXANES PLUS	0.2	0.2	0.2
NITROGEN	1.0	3.0	0.5
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	0.0
HYDROGEN	0.1	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.7
CARBON DIOXIDE	0.3	0.1	0.03
HELIUM	0.04	0.20	1147
HEATING VALUE*	1193	1124	0.656
SPECIFIC GRAVITY	0.685	0.658	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 106 SAMPLE 15809		INDEX 107 SAMPLE 15826		INDEX 108 SAMPLE 15679	
STATE	OKLAHOMA		OKLAHOMA		OKLAHOMA	
COUNTY	CUSTER		DEWEY PUTNAM		ELLIS	
FIELD	WEATHERFORD N		NICHOLS NO. 1		FARGO NW	
WELL NAME	MAST NO. 1-16		SEC. 29, T16N, R15W		PREWETT NO. 1	
LOCATION	SEC. 16, T13N, R14W		FERGUSON OIL CO.		SEC. 29, T23N, R23W	
OWNER	TENNECO OIL CO.		11/26/77		PHOENIX RESOURCES CO.	
COMPLETED	06/13/79		10/--/79		03/--/78	
SAMPLED	10/17/79		PENN-MORROW		06/23/79	
FORMATION	PENN-SPRINGER&MORROW		360		MISS-MERAMEC	
GEOLOGIC PROVINCE CODE	360		11246		360	
DEPTH, FEET	13820		4134		11617	
WELLHEAD PRESSURE,PSIG	6600		2545		1680	
OPEN FLOW, MCFD	6200				2151	
COMPONENT, MOLE PCT						
METHANE	96.5	----------	86.9	----------	94.7	----------
ETHANE	1.8		6.2		1.6	
PROPANE	0.2	----------	2.5	----------	0.5	----------
N-BUTANE	0.1		0.4		0.3	
ISOBUTANE	0.0	----------	0.7	----------	0.1	----------
N-PENTANE	0.0		0.1		0.2	
ISOPENTANE	0.1	----------	0.7	----------	0.1	----------
CYCLOPENTANE	TRACE		0.2		TRACE	
HEXANES PLUS	TRACE	----------	0.8	----------	0.2	----------
NITROGEN	0.3		0.7		1.1	
OXYGEN	0.0	----------	0.0	----------	0.0	----------
ARGON	TRACE		0.0		TRACE	
HYDROGEN	TRACE	----------	TRACE	----------	TRACE	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	1.0	----------	0.7	----------	1.1	----------
HELIUM	0.03		0.04		0.04	
HEATING VALUE*	1023	----------	1176	----------	1038	----------
SPECIFIC GRAVITY	0.580		0.675		0.599	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 109 SAMPLE 15869	INDEX 110 SAMPLE 15594	INDEX 111 SAMPLE 15846
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	GRADY	GRADY	GRADY
FIELD	ALEX NW	MARLOW W	MINCO W
WELL NAME	SOUTHERLAND "A" NO. 1	FRITTS NO. 2	WEHLING NO. 1
LOCATION	SEC.3, T5N, R6W	SEC. 31, T3N, R8W	SEC. 21, T10N, R8W
OWNER	CITIES SERVICE CO	PETRO-LEWIS CORP.	NOVA ENERGY CORP.
COMPLETED	NOT GIVEN	08/18/78	12/19/78
SAMPLED	NOT GIVEN	03/30/79	11/99/79
FORMATION	PENN-MORROW & SPRINGER	PENN-MEDRANO	DEVO-HUNTON
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	13216	8980	13002
WELLHEAD PRESSURE,PSIG	4394	2376	4856
OPEN FLOW, MCFD	3650	1800	14910
COMPONENT, MOLE PCT			
METHANE	88.7	92.1	94.8
ETHANE	6.2	4.1	1.1
PROPANE	2.4	1.8	0.2
N-BUTANE	0.5	0.5	0.1
ISOBUTANE	0.3	0.2	0.1
N-PENTANE	0.1	0.1	0.0
ISOPENTANE	0.2	0.2	TRACE
CYCLOPENTANE	TRACE	0.1	TRACE
HEXANES PLUS	0.1	0.2	0.1
NITROGEN	0.7	0.5	1.7
OXYGEN	TRACE	0.0	0.2
ARGON	TRACE	0.0	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.6	0.2	1.6
HELIUM	0.03	0.03	0.02
HEATING VALUE*	1117	1104	997
SPECIFIC GRAVITY	0.637	0.620	0.590

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 112 SAMPLE 15561	INDEX 113 SAMPLE 15597	INDEX 114 SAMPLE 15726
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	GRADY	HARPER	HASKELL
FIELD	RUSH SPRINGS	WILDCAT	RUSSELVILLE N
WELL NAME	RUSH SPRINGS UNIT NO. 4	SMITH NO. 1	BROWN "L" NO. 1
LOCATION	SEC. 32, T4N, R7W	SEC. 32, T26N, R21W	SEC. 33, T9N, R18E
OWNER	MACK OIL CO.	NORTHERN NATURAL GAS EXPL.	CITIES SERVICE CO.
COMPLETED	03/24/76	07/06/78	03/08/79
SAMPLED	02/02/79	03/27/79	08/17/79
FORMATION	PENN-SPRINGER	MISS-CHESTER	PENN-ATOKA BASAL
GEOLOGIC PROVINCE CODE	360	360	345
DEPTH, FEET	16970	6564	4887
WELLHEAD PRESSURE,PSIG	3595	1878	837
OPEN FLOW, MCFD	1389	5485	10391
COMPONENT, MOLE PCT			
METHANE	93.6	92.7	96.0
ETHANE	3.5	2.8	0.8
PROPANE	0.9	1.1	0.1
N-BUTANE	0.1	0.4	0.0
ISOBUTANE	0.1	0.2	0.0
N-PENTANE	0.1	0.1	0.0
ISOPENTANE	TRACE	0.2	0.0
CYCLOPENTANE	TRACE	0.1	0.0
HEXANES PLUS	0.2	0.2	0.0
NITROGEN	0.5	1.7	0.8
OXYGEN	0.1	TRACE	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.8	0.3	2.2
HELIUM	0.03	0.09	0.09
HEATING VALUE*	1055	1065	989
SPECIFIC GRAVITY	0.600	0.610	0.584

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 115 SAMPLE 15727		INDEX 116 SAMPLE 15726		INDEX 117 SAMPLE 15649	
STATE	OKLAHOMA		OKLAHOMA		OKLAHOMA	
COUNTY	HASKELL		HASKELL		HUGHES	
FIELD	RUSSELVILLE N		STIGLER W		ATWOOD S	
WELL NAME	BROWN "L" NO. 1		COLLEGE UNIT NO. 1		POOL NO. 1-13	
LOCATION	SEC. 33, T9N, R18E		SEC. 15, T9N, R20E		SEC. 13, T5N, R9E	
OWNER	CITIES SERVICE CO.		E. LYLE JOHNSON, INC.		JOHN A. TAYLOR	
COMPLETED	03/08/79		09/20/78		12/03/78	
SAMPLED	08/17/79		08/20/79		06/14/79	
FORMATION	PENN-CROMWELL		PENN-WAPANUCKA		PENN-GILCREASE	
GEOLOGIC PROVINCE CODE	345		345		355	
DEPTH, FEET	5454		4235		3800	
WELLHEAD PRESSURE,PSIG	815		1394		1300	
OPEN FLOW, MCFD	1884		10141		2400	
COMPONENT, MOLE PCT						
METHANE	95.2	----------	96.2	----------	89.3	----------
ETHANE	0.8	----------	1.3	----------	4.5	----------
PROPANE	0.1	----------	0.1	----------	1.7	----------
N-BUTANE	0.0	----------	0.1	----------	0.5	----------
ISOBUTANE	0.0	----------	0.0	----------	0.2	----------
N-PENTANE	0.0	----------	TRACE	----------	0.2	----------
ISOPENTANE	0.0	----------	TRACE	----------	0.1	----------
CYCLOPENTANE	0.0	----------	TRACE	----------	TRACE	----------
HEXANES PLUS	0.0	----------	0.1	----------	0.1	----------
NITROGEN	0.7	----------	1.7	----------	2.7	----------
OXYGEN	0.0	----------	0.0	----------	0.3	----------
ARGON	0.0	----------	TRACE	----------	TRACE	----------
HYDROGEN	0.0	----------	0.0	----------	TRACE	----------
HYDROGEN SULFIDE**	0.0	----------	0.0	----------	0.0	----------
CARBON DIOXIDE	3.1	----------	0.5	----------	0.1	----------
HELIUM	0.09	----------	0.11	----------	0.11	----------
HEATING VALUE*	981	----------	1009	----------	1071	----------
SPECIFIC GRAVITY	0.592	----------	0.578	----------	0.625	----------

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 118 SAMPLE 15814	INDEX 119 SAMPLE 15717	INDEX 120 SAMPLE 15600
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	HUGHES	KAY	MCCLAIN
FIELD	GERTY	BRAMAN N	NEW CASTLE W
WELL NAME	COSPER NO. 7-1	W. A. TAYLOR NO. 1	DUNNING NO. 1
LOCATION	SEC. 7, T4N, R10E	SEC. 22, T29N, R1W	SEC. 30, T9N, R4W
OWNER	JONES & PELLOW OIL CO.	CHASE EXPLORATION CORP.	NATIONAL COOPERATIVE REF.
COMPLETED	08/20/79	11/10/77	01/31/79
SAMPLED	10/23/79	07/28/79	04/09/79
FORMATION	PENN-BOOCH	PERM-NEVA	PENN-
GEOLOGIC PROVINCE CODE	355	355	355
DEPTH, FEET	2910	900	9036
WELLHEAD PRESSURE,PSIG	956	110	3000
OPEN FLOW, MCFD	2433	225	3493
COMPONENT, MOLE PCT			
METHANE	89.4	62.8	86.0
ETHANE	3.7	3.8	7.0
PROPANE	1.7	2.0	3.1
N-BUTANE	0.4	0.5	0.8
ISOBUTANE	0.3	0.3	0.4
N-PENTANE	0.1	0.1	0.3
ISOPENTANE	0.2	0.1	0.2
CYCLOPENTANE	TRACE	TRACE	0.1
HEXANES PLUS	0.1	0.1	0.3
NITROGEN	4.0	29.0	1.5
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	0.0
HYDROGEN	TRACE	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.5	0.2
HELIUM	0.17	0.75	0.06
HEATING VALUE*	1058	797	1158
SPECIFIC GRAVITY	0.626	0.733	0.665

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 121 SAMPLE 15608	INDEX 122 SAMPLE 15715	INDEX 123 SAMPLE 15564
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	ROGER MILLS	ROGER MILLS	ROGER MILLS
FIELD	CARPENTER W	HAMBURG NW	MIDWAY
WELL NAME	SIMMONS NO. 1A	E. T. GAMBLE	SELBY HOOPER NO. 1
LOCATION	SEC. 17, T12N, R22W	SEC. 33, T15N, R26W	SEC. 5, T14N, R26W
OWNER	NATOMAS NORTH AMERICA, INC.	TEXACO INC.	ARKLA EXPLORATION CO.
COMPLETED	NOT GIVEN	01/31/79	NOT GIVEN
SAMPLED	04/26/79	07/26/79	02/09/79
FORMATION	PENN-TONKAWA	PENN-MORROW	PENN-MORROW
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	9314	14356	NOT GIVEN
WELLHEAD PRESSURE,PSIG	NOT GIVEN	9400	NOT GIVEN
OPEN FLOW, MCFD	75	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	97.1	96.8	96.6
ETHANE	0.4	0.7	0.6
PROPANE	0.1	0.1	0.1
N-BUTANE	0.0	0.1	TRACE
ISOBUTANE	0.0	0.0	TRACE
N-PENTANE	0.0	TRACE	TRACE
ISOPENTANE	0.0	TRACE	0.0
CYCLOPENTANE	0.0	TRACE	TRACE
HEXANES PLUS	0.0	0.1	0.1
NITROGEN	0.3	0.3	0.5
OXYGEN	0.0	0.0	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	TRACE	0.1
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	2.1	1.8	1.9
HELIUM	0.02	0.02	0.02
HEATING VALUE*	993	1004	997
SPECIFIC GRAVITY	0.579	0.581	0.580

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 124 SAMPLE 15811	INDEX 125 SAMPLE 15602	INDEX 126 SAMPLE 15825
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	ROGER MILLS	TEXAS	TEXAS
FIELD	STRONG CITY N	CAMRICK	CAPLE N
WELL NAME	WICKHAM NO. 1	NEFF "D" NO. 2X	DAISY NO. 1
LOCATION	SEC. 26, T15N, R23W	SEC. 6, T2N, R18ECM	SEC. 31, T2N, R17ECM
OWNER	HARPER OIL CO.	KANSAS-NEBRASKA NAT. GAS CO.	SOUTHLAND ROYALTY CO.
COMPLETED	04/10/79	09/16/78	05/12/79
SAMPLED	10/18/79	04/23/79	10/11/79
FORMATION	PENN-CHEROKEE	PENN-MORROW	MISS-CHESTER
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	11205	6373	6711
WELLHEAD PRESSURE,PSIG	6900	360	1250
OPEN FLOW, MCFD	NOT GIVEN	1000	800
COMPONENT, MOLE PCT			
METHANE	86.5	83.4	91.7
ETHANE	7.9	6.2	3.2
PROPANE	2.7	4.5	1.6
N-BUTANE	0.6	1.4	0.4
ISOBUTANE	0.4	0.5	0.3
N-PENTANE	0.1	0.4	0.1
ISOPENTANE	0.3	0.4	0.2
CYCLOPENTANE	TRACE	0.1	0.1
HEXANES PLUS	0.1	0.3	0.2
NITROGEN	0.4	2.4	1.8
OXYGEN	0.0	0.0	0.0
ARGON	0.0	0.0	TRACE
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.9	0.3	0.2
HELIUM	0.03	0.17	0.14
HEATING VALUE*	1144	1190	1078
SPECIFIC GRAVITY	0.656	0.696	0.618

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 127 SAMPLE 15612	INDEX 128 SAMPLE 15596	INDEX 129 SAMPLE 15580
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	TEXAS	TEXAS	TEXAS
FIELD	DAGUE SE	HOUGH S	RICE SW
WELL NAME	FISCHER NO. 1	KEENAN NO. B-1	C. N. TREECE "B" NO. 2
LOCATION	SEC. 27, T5N, R16ECM	SEC. 36, T4N, R13ECM	SEC. 7, T2N, R20ECM
OWNER	CABOT CORP.	ANADARKO PRODUCTION CO.	TEXACO INC.
COMPLETED	08/15/78	06/20/78	10/17/77
SAMPLED	04/30/79	04/05/79	03/14/79
FORMATION	PENN-KEYES	PENN-MORROW	PENN-MORROW
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	6484	6203	4556
WELLHEAD PRESSURE,PSIG	1338	NOT GIVEN	937
OPEN FLOW, MCFD	9855	6300	6376
COMPONENT, MOLE PCT			
METHANE	94.2	88.1	85.5
ETHANE	2.5	5.6	6.0
PROPANE	0.9	2.7	3.0
N-BUTANE	0.3	0.8	0.9
ISOBUTANE	0.1	0.3	0.3
N-PENTANE	0.1	0.2	0.3
ISOPENTANE	0.1	0.2	0.3
CYCLOPENTANE	0.1	TRACE	0.1
HEXANES PLUS	0.2	0.1	0.3
NITROGEN	1.1	1.5	3.0
OXYGEN	0.0	0.0	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	TRACE	TRACE	0.1
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	0.2	0.1
HELIUM	0.09	0.12	0.19
HEATING VALUE*	1058	1122	1137
SPECIFIC GRAVITY	0.598	0.643	0.666

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 130 SAMPLE 15644	INDEX 131 SAMPLE 15804	INDEX 132 SAMPLE 15681
STATE	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY	WASHITA	WOODWARD	WOODWARD
FIELD	ELK CITY	FREEDOM	HARMON E
WELL NAME	FLOYD NIECE NO. 1	OKLAHOMA NO. 1-32	STATE OF OKLAHOMA NO. 1
LOCATION	SEC. 27, T10N, R20W	SEC. 32, T27N, R18W	SEC. 16, T20N, R22W
OWNER	EL PASO NATURAL GAS CO.	SOUTHLAND ROYALTY CO.	ALAMO PETROLEUM CO.
COMPLETED	05/02/77	01/17/79	10/28/78
SAMPLED	06/15/79	10/03/79	06/26/79
FORMATION	PENN-MORROW	MISS-CHESTER	PENN-MORROW
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	19178	5600	10064
WELLHEAD PRESSURE,PSIG	NOT GIVEN	1900	3400
OPEN FLOW, MCFD	20000	4100	37000
COMPONENT, MOLE PCT			
METHANE	95.9	92.6	83.6
ETHANE	1.8	3.3	8.4
PROPANE	0.4	1.2	3.8
N-BUTANE	0.1	0.3	0.9
ISOBUTANE	0.0	0.2	0.8
N-PENTANE	TRACE	0.1	0.3
ISOPENTANE	0.1	0.1	0.3
CYCLOPENTANE	TRACE	TRACE	0.1
HEXANES PLUS	TRACE	0.2	0.2
NITROGEN	0.3	1.4	0.5
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	0.0
HYDROGEN	TRACE	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.3	0.5	1.1
HELIUM	0.02	0.06	0.04
HEATING VALUE*	1022	1064	1193
SPECIFIC GRAVITY	0.584	0.609	0.691

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 133 SAMPLE 15834		INDEX 134 SAMPLE 15847		INDEX 135 SAMPLE 15638	
STATE	TEXAS		TEXAS		TEXAS	
COUNTY	ANGELINA		COTTLE		CROCKETT	
FIELD	WILDCAT		PIPPEN SE		LAURA HOOVER ESTATE	
WELL NAME	TUCKER NO. 1		GILBREATH NO. 1R		LAURA HOOVER NO. 1-2	
LOCATION	3 MI. EAST OF HUNTINGTON		MARY A. COOK SUR. A-65		SEC. 2, BLK. NNN, HOOVER SUR	
OWNER	HNG OIL CO.		HARKEN OIL & GAS CORP.		THE CANYON CO.	
COMPLETED	NOT GIVEN		10/03/78		08/--/79	
SAMPLED	11/07/79		11/28/78		06/06/79	
FORMATION	CRET-JAMES		PENN-CONGLOMERATE		PENN-CANYON	
GEOLOGIC PROVINCE CODE	260		435		430	
DEPTH, FEET	9963		6922		6469	
WELLHEAD PRESSURE,PSIG	5200		2200		2400	
OPEN FLOW, MCFD	500		4074		4200	
COMPONENT, MOLE PCT						
METHANE	93.6	----------	82.2	----------	75.0	----------
ETHANE	1.9	----------	10.0	----------	11.7	----------
PROPANE	1.0	----------	3.8	----------	6.2	----------
N-BUTANE	0.4	----------	0.9	----------	1.8	----------
ISOBUTANE	0.3	----------	0.4	----------	1.1	----------
N-PENTANE	0.2	----------	0.1	----------	0.5	----------
ISOPENTANE	0.2	----------	0.3	----------	1.0	----------
CYCLOPENTANE	0.1	----------	TRACE	----------	0.2	----------
HEXANES PLUS	0.3	----------	0.1	----------	0.6	----------
NITROGEN	0.4	----------	1.7	----------	1.3	----------
OXYGEN	0.0	----------	0.0	----------	TRACE	----------
ARGON	0.0	----------	TRACE	----------	0.0	----------
HYDROGEN	0.0	----------	0.0	----------	0.1	----------
HYDROGEN SULFIDE**	0.0	----------	0.0	----------	0.0	----------
CARBON DIOXIDE	1.7	----------	0.3	----------	0.5	----------
HELIUM	0.01	----------	0.12	----------	0.04	----------
HEATING VALUE*	1068	----------	1176	----------	1331	----------
SPECIFIC GRAVITY	0.620	----------	0.681	----------	0.776	----------

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 136 SAMPLE 15742	INDEX 137 SAMPLE 15788	INDEX 138 SAMPLE 15643
STATE	TEXAS	TEXAS	TEXAS
COUNTY	DEWITT	DIMMIT	DUVAL
FIELD	CHRISTMAS S	STRAIT	HAGIST RANCH
WELL NAME	GREEN NO. 1	STRAIT GAS UNIT NO. 1	J. R. FOSTER NO. 5
LOCATION	DELORES ALDRETTE SUR., A-52	SEC. 47, BLK. 1, HGN RR CO.	SURVEY 270, A-1642
OWNER	HILLIARD OIL & GAS, INC.	IKE LOVELADY INC.	ARCO OIL & GAS CO.
COMPLETED	12/13/77	08/12/79	03/16/76
SAMPLED	09/--/79	09/25/79	06/13/79
FORMATION	EOCE-WILCOX	CRET-EDWARDS	EOCE-WILCOX
GEOLOGIC PROVINCE CODE	220	220	220
DEPTH, FEET	10860	7189	9300
WELLHEAD PRESSURE,PSIG	7129	3000	3185
OPEN FLOW, MCFD	7000	89000	2450
COMPONENT, MOLE PCT			
METHANE	87.2	93.6	89.0
ETHANE	4.8	1.2	5.4
PROPANE	1.5	0.4	1.8
N-BUTANE	0.4	0.2	0.4
ISOBUTANE	0.5	0.2	0.3
N-PENTANE	0.1	0.1	0.1
ISOPENTANE	0.5	0.1	0.2
CYCLOPENTANE	0.1	TRACE	TRACE
HEXANES PLUS	0.4	0.1	0.1
NITROGEN	0.2	1.9	0.2
OXYGEN	0.0	TRACE	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.6	0.0
CARBON DIOXIDE	4.2	1.6	2.4
HELIUM	TRACE	0.01	TRACE
HEATING VALUE*	1088	1011	1087
SPECIFIC GRAVITY	0.671	0.604	0.642

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 139 SAMPLE 15710	INDEX 140 SAMPLE 15838	INDEX 141 SAMPLE 15833
STATE	TEXAS	TEXAS	TEXAS
COUNTY	EASTLAND	GRAY	HANSFORD
FIELD	GAILEY-ALLEN	LAKETON	WILLIAMS
WELL NAME	O. H. DELANO NO. 11-L	DELP NO. 1	MINDA "A" NO. 2
LOCATION	DELANO SUR.	SEC. 110, BLK. M-2, BS&F SUR	SEC. 33, BLK. P, H&GN SUR.
OWNER	TEXAS PACIFIC OIL CO., INC.	PAGE PETROLEUM INC.	PHILLIPS PETROLEUM CO.
COMPLETED	10/27/77	06/30/79	09/08/79
SAMPLED	07/23/79	11/19/79	11/09/79
FORMATION	PENN-MARBLE FALLS	PERM-GRANITE WASH	PENN-MORROW
GEOLOGIC PROVINCE CODE	425	440	360
DEPTH, FEET	2964	10800	6768
WELLHEAD PRESSURE,PSIG	1340	2210	765
OPEN FLOW, MCFD	6069	90000	4200
COMPONENT, MOLE PCT			
METHANE	77.3	71.4	87.8
ETHANE	9.7	7.9	3.7
PROPANE	4.4	4.6	2.3
N-BUTANE	1.1	1.1	0.7
ISOBUTANE	0.7	0.6	0.2
N-PENTANE	0.3	0.3	0.2
ISOPENTANE	0.3	0.3	0.2
CYCLOPENTANE	0.1	TRACE	TRACE
HEXANES PLUS	0.3	0.1	0.2
NITROGEN	4.0	13.4	4.2
OXYGEN	0.0	0.1	TRACE
ARGON	0.0	TRACE	TRACE
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.7	TRACE	0.2
HELIUM	0.13	0.16	0.21
HEATING VALUE*	1176	1072	1073
SPECIFIC GRAVITY	0.727	0.734	0.640

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 142 SAMPLE 15550	INDEX 143 SAMPLE 15839	INDEX 144 SAMPLE 15556
STATE	TEXAS	TEXAS	TEXAS
COUNTY	HEMPHILL	HEMPHILL	HEMPHILL
FIELD	GEM HEMPHILL	HUMPHRIES	MENDOTA
WELL NAME	FORGEY 112 NO. 1	WRIGHT NO. 1	CAMPBELL NO. 1-13
LOCATION	SEC.112, BLK. 41, H&TC SUR.	SEC. 122, BLK. 41, H&TC SUR.	SEC. 13, BLK. 1, I&GN SUR.
OWNER	GULF OIL CORP.	MOODY ENERGY CO.	HOOVER & BRACKEN
COMPLETED	08/27/78	05/29/79	11/13/77
SAMPLED	12/28/78	11/23/79	01/--/79
FORMATION	PENN-DOUGLAS	PENN-DOUGLAS	PERM-GRANITE WASH
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	7595	7304	9810
WELLHEAD PRESSURE,PSIG	1842	1800	1870
OPEN FLOW, MCFD	23000	60000	7176
COMPONENT, MOLE PCT			
METHANE	83.5	82.1	68.0
ETHANE	7.8	7.7	16.9
PROPANE	3.8	4.5	8.3
N-BUTANE	0.9	1.2	2.6
ISOBUTANE	0.5	0.6	1.1
N-PENTANE	0.2	0.3	0.6
ISOPENTANE	0.2	0.3	0.7
CYCLOPENTANE	0.1	0.1	0.1
HEXANES PLUS	0.2	0.2	0.3
NITROGEN	2.2	2.5	0.8
OXYGEN	TRACE	0.1	TRACE
ARGON	0.0	TRACE	0.0
HYDROGEN	0.1	0.0	0.1
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.3	0.2	0.4
HELIUM	0.15	0.14	0.03
HEATING VALUE*	1163	1187	1407
SPECIFIC GRAVITY	0.677	0.695	0.818

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 145 SAMPLE 15829		INDEX 146 SAMPLE 15685		INDEX 147 SAMPLE 15754	
STATE	TEXAS		TEXAS		TEXAS	
COUNTY	JEFFERSON		LIPSCOMB		LIPSCOMB	
FIELD	GUM ISLAND W		BOOKER S		FOLLETT S	
WELL NAME	HERBERT BROUSSARD "A" NO. 2		SCOTT NO. 1		BORN NO. 1	
LOCATION	A. HOTCHKISS SUR. A-31		SEC.1117, BLK.43, H&TC SUR.		SEC.969, BLK. 43, H&TC SUR.	
OWNER	DOW CHEMICAL U.S.A.		LEAR PETROLEUM CORP.		HOME PETROLEUM CORP.	
COMPLETED	07/--/77		10/07/78		04/12/79	
SAMPLED	11/06/79		07/05/79		09/17/79	
FORMATION	OLIG-HACKBERRY		PENN-MORROW		PENN-MORROW	
GEOLOGIC PROVINCE CODE	220		360		360	
DEPTH, FEET	10211		9350		9244	
WELLHEAD PRESSURE,PSIG	6407		2600		2800	
OPEN FLOW, MCFD	9500		NOT GIVEN		3000	
COMPONENT, MOLE PCT						
METHANE	86.4	----------	84.8	----------	94.2	----------
ETHANE	7.5	----------	7.9	----------	3.0	----------
PROPANE	3.2	----------	3.7	----------	0.9	----------
N-BUTANE	0.7	----------	0.9	----------	0.2	----------
ISOBUTANE	0.8	----------	0.3	----------	0.1	----------
N-PENTANE	0.2	----------	0.2	----------	TRACE	----------
ISOPENTANE	0.3	----------	0.3	----------	0.1	----------
CYCLOPENTANE	TRACE	----------	0.1	----------	TRACE	----------
HEXANES PLUS	0.1	----------	0.2	----------	0.1	----------
NITROGEN	0.4	----------	0.9	----------	0.5	----------
OXYGEN	0.0	----------	0.1	----------	0.0	----------
ARGON	TRACE	----------	TRACE	----------	TRACE	----------
HYDROGEN	0.0	----------	TRACE	----------	0.0	----------
HYDROGEN SULFIDE**	0.0	----------	0.0	----------	0.0	----------
CARBON DIOXIDE	0.4	----------	0.6	----------	0.8	----------
HELIUM	TRACE	----------	0.08	----------	0.04	----------
HEATING VALUE*	1170	----------	1172	----------	1051	----------
SPECIFIC GRAVITY	0.664	----------	0.675	----------	0.596	----------

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 148 SAMPLE 15617	INDEX 149 SAMPLE 15568	INDEX 150 SAMPLE 15680
STATE	TEXAS	TEXAS	TEXAS
COUNTY	LIPSCOMB	LIPSCOMB	LIPSCOMB
FIELD	HORSE CREEK NW	LIPSCOMB S	MAY
WELL NAME	KELLN 206 NO. 1	VALENTINE SCHOENHALS A NO. 1	DUKE NO. 1
LOCATION	SEC. 206, BLK. 43, H&TC SUR.	SEC.457, BLK. 43, H&TC SUR.	SEC.1038, BLK.43, H&TC SUR.
OWNER	DORCHESTER EXPLORATION, INC.	DIAMOND SHAMROCK CORP.	MAY PETROLEUM CORP.
COMPLETED	05/04/79	01/11/79	11/16/78
SAMPLED	05/04/79	02/20/79	06/28/79
FORMATION	PENN-MORROW	PENN-MORROW	PENN-MORROW
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	11042	9758	9384
WELLHEAD PRESSURE,PSIG	4410	2493	3118
OPEN FLOW, MCFD	6600	5200	46000
COMPONENT, MOLE PCT			
METHANE	97.3	88.2	94.7
ETHANE	0.8	6.9	2.4
PROPANE	0.1	2.2	0.7
N-BUTANE	0.0	0.4	0.2
ISOBUTANE	0.0	0.2	0.1
N-PENTANE	0.0	0.1	0.1
ISOPENTANE	0.0	0.2	0.1
CYCLOPENTANE	0.0	TRACE	TRACE
HEXANES PLUS	0.0	0.1	0.1
NITROGEN	0.3	0.5	0.4
OXYGEN	0.0	0.0	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	TRACE	0.1	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.4	0.9	1.2
HELIUM	0.04	0.06	0.04
HEATING VALUE*	1003	1113	1044
SPECIFIC GRAVITY	0.574	0.637	0.597

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 151 SAMPLE 15585	INDEX 152 SAMPLE 15586	INDEX 153 SAMPLE 15618
STATE	TEXAS	TEXAS	TEXAS
COUNTY	LIVE OAK	LIVE OAK	MARION
FIELD	CLAYTON	CLAYTON	PINES SPILLWAY
WELL NAME	HERRING "A" NO. 1	HERRING "A" NO. 1	S. E. WOOD NO. 1
LOCATION	JOHN BUCHANAN SUR. A-81	JOHN BUCHANAN SUR. A-81	J. C. WALKER SUR. A-413
OWNER	KILROY CO. OF TEXAS	KILROY CO. OF TEXAS	CLAYTON W. WILLIAMS, JR.
COMPLETED	08/10/77	08/10/77	10/09/76
SAMPLED	03/20/79	03/20/79	05/10/79
FORMATION	EOCE-WILCOX	EOCE-WILCOX	CRET-RODESSA
GEOLOGIC PROVINCE CODE	220	220	260
DEPTH, FEET	7720	8351	6073
WELLHEAD PRESSURE,PSIG	2785	4035	2035
OPEN FLOW, MCFD	4100	1330	4700
COMPONENT, MOLE PCT			
METHANE	86.9	81.8	91.4
ETHANE	3.6	6.1	3.9
PROPANE	2.9	3.6	1.1
N-BUTANE	0.6	0.9	0.5
ISOBUTANE	0.5	0.7	0.4
N-PENTANE	0.1	0.2	0.3
ISOPENTANE	0.3	0.4	0.2
CYCLOPENTANE	0.1	0.1	TRACE
HEXANES PLUS	0.1	0.2	0.3
NITROGEN	2.8	3.8	1.0
OXYGEN	0.2	0.6	0.1
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.9	1.5	0.7
HELIUM	TRACE	0.01	0.01
HEATING VALUE*	1083	1125	1091
SPECIFIC GRAVITY	0.661	0.696	0.626

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 154 SAMPLE 15598		INDEX 155 SAMPLE 15729		INDEX 156 SAMPLE 15571	
STATE	TEXAS		TEXAS		TEXAS	
COUNTY	MCCULLOCH		MCMULLEN		NUECES	
FIELD	WALLOPE CREEK		WILLIFORD		RED FISH BAY	
WELL NAME	JOHNNIE V. GUICE NO. 1		VIRGINIA RAGSDALE NO. 1		STATE TRACT 445 NO. 1 LT	
LOCATION	SEC. 4, BRONAUGH BRO. SUR.		PABLO ALANIS SUR. 112, A1120		TEXAS STATE TRACT 445	
OWNER	BLAIR EXPLORATION, INC.		ARCO OIL & GAS CO.		GETTY OIL CO.	
COMPLETED	10/20/78		07/18/78		01/12/77	
SAMPLED	04/04/79		08/23/79		02/26/79	
FORMATION	PENN-CROSS CUT		OLIG-FRIO		OLIG-FRIO	
GEOLOGIC PROVINCE CODE	410		220		220	
DEPTH, FEET	1700		1648		11540	
WELLHEAD PRESSURE,PSIG	875		453		7500	
OPEN FLOW, MCFD	5082		11802		3784	
COMPONENT, MOLE PCT						
METHANE	74.4	----------	99.1	----------	87.1	----------
ETHANE	2.2		0.1		6.5	
PROPANE	1.0	----------	TRACE	----------	2.6	----------
N-BUTANE	0.3		0.0		0.6	
ISOBUTANE	0.2	----------	0.0	----------	1.0	----------
N-PENTANE	0.1		0.0		0.2	
ISOPENTANE	0.1	----------	0.0	----------	0.2	----------
CYCLOPENTANE	TRACE		0.0		0.1	
HEXANES PLUS	0.1	----------	0.0	----------	0.3	----------
NITROGEN	20.1		0.6		1.1	
OXYGEN	0.0	----------	0.1	----------	0.1	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	0.0	----------	TRACE	----------	0.0	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	0.7	----------	0.1	----------	0.2	----------
HELIUM	0.72		0.01		TRACE	
HEATING VALUE*	850	----------	1006	----------	1156	----------
SPECIFIC GRAVITY	0.676		0.559		0.661	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 157 SAMPLE 15572	INDEX 158 SAMPLE 15551	INDEX 159 SAMPLE 15605
STATE	TEXAS	TEXAS	TEXAS
COUNTY	NUECES	NUECES	OCHILTREE
FIELD	RED FISH BAY	SOUTH BAY	OUTCHER
WELL NAME	STATE TRACT 445 NO. 1 UT	STATE TRACT 286 NO. 1	LUTHI "A" NO. 1
LOCATION	TEXAS STATE TRACT 445	CORPUS CHRISTI BAY	SEC. 401, BLK. 43, H&TC SUR.
OWNER	GETTY OIL CO.	TAMARACK PETROLEUM, INC.	NATOMAS NORTH AMERICA, INC.
COMPLETED	01/12/77	10/07/76	NOT GIVEN
SAMPLED	02/26/79	12/29/78	04/26/79
FORMATION	OLIG-FRIO	OLIG-FRIO	PENN-CLEVELAND
GEOLOGIC PROVINCE CODE	220	220	360
DEPTH, FEET	9338	9865	NOT GIVEN
WELLHEAD PRESSURE,PSIG	6200	6357	NOT GIVEN
OPEN FLOW, MCFD	1669	22000	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	72.5	91.5	70.4
ETHANE	6.6	4.3	8.3
PROPANE	6.2	1.7	11.0
N-BUTANE	2.4	0.5	4.0
ISOBUTANE	5.9	0.6	1.4
N-PENTANE	1.1	0.2	0.7
ISOPENTANE	1.4	0.2	0.8
CYCLOPENTANE	0.2	TRACE	0.3
HEXANES PLUS	3.1	0.2	0.4
NITROGEN	0.4	0.3	2.1
OXYGEN	TRACE	TRACE	TRACE
ARGON	0.0	0.0	0.0
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	0.5	0.5
HELIUM	TRACE	TRACE	0.11
HEATING VALUE*	1566	1112	1425
SPECIFIC GRAVITY	0.906	0.628	0.845

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 160 SAMPLE 15691	INDEX 161 SAMPLE 15689	INDEX 162 SAMPLE 15688
STATE	TEXAS	TEXAS	TEXAS
COUNTY	OCHILTREE	OCHILTREE	OCHILTREE
FIELD	HANNA LAKE	MARSH	NORTHRUP
WELL NAME	WAGGONER NO. 1	PARNELL NO. 1	PARNELL NO. 1
LOCATION	SEC. 43, BLK. 10, HT&B SUR.	SEC. 474, BLK. 43, H&TC SUR.	SEC. 474, BLK. 43, H&TC SUR.
OWNER	COURSON OIL & GAS INC.	NATURAL GAS ANADARKO	NATURAL GAS ANADARKO
COMPLETED	08/09/78	06/02/78	06/02/78
SAMPLED	07/12/79	07/12/79	07/12/79
FORMATION	PENN-MORROW	PENN-DOUGLAS	PENN-CLEVELAND
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	8092	5826	7278
WELLHEAD PRESSURE,PSIG	1848	1545	1728
OPEN FLOW, MCFD	5700	1980	2100
COMPONENT, MOLE PCT			
METHANE	80.3	76.5	85.0
ETHANE	7.3	4.9	7.1
PROPANE	6.0	4.6	4.0
N-BUTANE	1.9	1.4	1.2
ISOBUTANE	0.8	0.6	0.4
N-PENTANE	0.5	0.5	0.3
ISOPENTANE	0.6	0.3	0.3
CYCLOPENTANE	0.1	0.1	0.1
HEXANES PLUS	0.3	0.2	0.1
NITROGEN	1.8	10.4	1.2
OXYGEN	0.0	0.0	0.0
ARGON	0.0	TRACE	0.0
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.4	0.1	0.2
HELIUM	0.14	0.28	0.10
HEATING VALUE*	1257	1098	1181
SPECIFIC GRAVITY	0.734	0.719	0.676

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 163 SAMPLE 15546	INDEX 164 SAMPLE 15560	INDEX 165 SAMPLE 15719
STATE	TEXAS	TEXAS	TEXAS
COUNTY	PARKER	REEVES	REEVES
FIELD	COYLE	ADAM	LOCKRIDGE S
WELL NAME	GROLEAU NO. 1	ADAM ESTATE NO. 1	SAM J. DWYER NO. 1
LOCATION	G. W. COLE SUR. A-333	SEC. 11, BLK. 3, H&GN SUR.	BLK. 5T, HERNANDEZ SUR.
OWNER	WORLD PRODUCERS, INC.	ATAPCO	GETTY OIL CO.
COMPLETED	12/02/77	09/18/78	08/06/79
SAMPLED	12/26/78	01/29/79	08/06/79
FORMATION	PENN-ATOKA	PENN-MORROW	DEVO-
GEOLOGIC PROVINCE CODE	420	430	430
DEPTH, FEET	4201	17208	16760
WELLHEAD PRESSURE,PSIG	1727	10812	6800
OPEN FLOW, MCFD	4600	12100	6000
COMPONENT, MOLE PCT			
METHANE	77.4	92.2	93.9
ETHANE	11.0	0.4	2.8
PROPANE	5.1	TRACE	0.7
N-BUTANE	1.3	0.1	0.2
ISOBUTANE	0.9	TRACE	0.1
N-PENTANE	0.5	0.0	0.1
ISOPENTANE	0.2	0.1	TRACE
CYCLOPENTANE	0.2	TRACE	TRACE
HEXANES PLUS	0.6	0.1	0.1
NITROGEN	2.4	4.1	0.6
OXYGEN	TRACE	0.8	0.0
ARGON	0.0	TRACE	0.0
HYDROGEN	TRACE	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.2	2.2	1.3
HELIUM	0.11	0.01	0.01
HEATING VALUE*	1256	954	1039
SPECIFIC GRAVITY	0.736	0.605	0.598

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 166 SAMPLE 15835	INDEX 167 SAMPLE 15867	INDEX 168 SAMPLE 15574
STATE	TEXAS	TEXAS	TEXAS
COUNTY	REEVES	ROBERTS	ROBERTS
FIELD	WORSHAM E	RED DEER NE	ST. CLAIR
WELL NAME	S. E. LIGON-STATE NO. 6	EARP NO. 1	CHRISTIE-TIPPS NO. 1
LOCATION	SEC. 16, BLK. 7, H&GN RR SUR	SEC. 59,BLK.1,H&GN SUR.	SEC. 25, BLK. 1, H&GN SUR.
OWNER	GULF OIL CORP.	GETTY OIL CO.	PARADOX PETROLEUM CO.
COMPLETED	07/25/79	08/02/79	NOT GIVEN
SAMPLED	11/14/79	12/18/79	03/07/79
FORMATION	PERM-CHERRY CANYON	PENN-MORROW	PERM-GRANITE WASH
GEOLOGIC PROVINCE CODE	430	360	360
DEPTH, FEET	6154	11039	NOT GIVEN
WELLHEAD PRESSURE,PSIG	2405	3687	1100
OPEN FLOW, MCFD	13000	12640	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	91.9	89.7	82.7
ETHANE	4.4	6.3	9.4
PROPANE	1.2	1.5	4.0
N-BUTANE	0.4	0.2	1.1
ISOBUTANE	0.3	0.1	0.5
N-PENTANE	0.1	TRACE	0.3
ISOPENTANE	0.2	0.1	0.3
CYCLOPENTANE	0.1	TRACE	0.1
HEXANES PLUS	0.1	TRACE	0.3
NITROGEN	1.2	0.6	0.7
OXYGEN	TRACE	TRACE	0.0
ARGON	TRACE	TRACE	0.0
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	TRACE	1.3	0.5
HELIUM	0.01	0.04	0.04
HEATING VALUE*	1086	1075	1209
SPECIFIC GRAVITY	0.613	0.621	0.693

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 169 SAMPLE 15555		INDEX 170 SAMPLE 15573		INDEX 171 SAMPLE 15708	
STATE	TEXAS		TEXAS		TEXAS	
COUNTY	SCHLEICHER		TERRY		TOM GREEN	
FIELD	KAMA		BECKER		HAZEL JONES	
WELL NAME	JEFFERS 18 NO. 1		HOFFMAN NO. 1-A		HAZEL JONES NO. 1	
LOCATION	SEC. 18, BLK. 2, GC&SF SUR.		SEC. 41, BLK. DD, JH GIBSON		SEC. 22, BLK. 24, H&TC SUR.	
OWNER	MITCHELL ENERGY CORP.		NRM PETROLEUM CORP.		SIMPSON-MANN OIL PROD.	
COMPLETED	12/03/76		02/09/78		04/19/79	
SAMPLED	01/--/79		03/01/79		07/23/79	
FORMATION	PENN-CANYON		PERM-YATES		PENN-STRAWN	
GEOLOGIC PROVINCE CODE	430		430		430	
DEPTH, FEET	7396		3123		5501	
WELLHEAD PRESSURE,PSIG	2464		2400		1680	
OPEN FLOW, MCFD	7000		21800		2414	
COMPONENT, MOLE PCT						
METHANE	41.0	----------	43.9	----------	74.1	----------
ETHANE	8.3		6.8		8.9	
PROPANE	15.2	----------	2.3	----------	4.8	----------
N-BUTANE	7.0		0.6		1.2	
ISOBUTANE	3.1	----------	0.2	----------	0.6	----------
N-PENTANE	1.5		0.2		0.3	
ISOPENTANE	2.2	----------	0.1	----------	0.2	----------
CYCLOPENTANE	0.3		TRACE		0.1	
HEXANES PLUS	1.0	----------	0.3	----------	0.2	----------
NITROGEN	2.2		45.4		8.9	
OXYGEN	0.2	----------	0.0	----------	0.0	----------
ARGON	0.0		TRACE		TRACE	
HYDROGEN	17.9	----------	TRACE	----------	0.0	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	TRACE	----------	TRACE	----------	0.4	----------
HELIUM	0.06		0.03		0.29	
HEATING VALUE*	1578	----------	681	----------	1131	----------
SPECIFIC GRAVITY	0.926		0.823		0.730	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H_2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 172 SAMPLE 15604	INDEX 173 SAMPLE 15724	INDEX 174 SAMPLE 15840
STATE	TEXAS	TEXAS	TEXAS
COUNTY	WARD	WARD	WEBB
FIELD	DELAWARE SE	RODGERS	BRUNI NE
WELL NAME	STATE XV NO. 2	RODGERS NO. 1	ROSA V. DEBENAVIDES NO. 1
LOCATION	SEC. 13, BLK. 18, UL SUR.	SEC. 95, BLK. F, G&MMB&A	M. ARISPE GRANT, A-850
OWNER	GULF OIL CORP.	MONSANTO CO.	HUGHES & HUGHES
COMPLETED	05/25/78	05/--/78	01/26/79
SAMPLED	04/27/79	08/03/79	11/20/79
FORMATION	PERM-DELAWARE	ORDO-ELLENBURGER	EOCE-
GEOLOGIC PROVINCE CODE	430	430	220
DEPTH, FEET	6143	18290	10354
	3393	6200	6920
WELLHEAD PRESSURE,PSIG	2200	16311	10000
OPEN FLOW, MCFD			
COMPONENT, MOLE PCT			
METHANE	85.4	97.1	89.8
ETHANE	5.4	1.2	0.4
PROPANE	2.3	0.3	TRACE
N-BUTANE	0.8	0.2	0.1
ISOBUTANE	0.7	TRACE	0.0
N-PENTANE	0.3	0.1	0.0
ISOPENTANE	0.6	0.1	TRACE
CYCLOPENTANE	0.4	TRACE	TRACE
HEXANES PLUS	0.6	0.1	TRACE
NITROGEN	3.4	0.3	0.2
OXYGEN	TRACE	0.0	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	TRACE	0.0	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.0	0.6	9.4
HELIUM	0.03	0.02	TRACE
HEATING VALUE*	1156	1033	920
SPECIFIC GRAVITY	0.680	0.580	0.650

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 175 SAMPLE 15576		INDEX 176 SAMPLE 15577		INDEX 177 SAMPLE 15799	
STATE	TEXAS		TEXAS		TEXAS	
COUNTY	WHARTON		WHARTON		WHEELER	
FIELD	WHARTON W		WHARTON W		MILLS RANCH SE	
WELL NAME	RUST ESTATE NO. 3-C		BROUGHTON-STATE UNIT NO. 1		BRYANT NO. 1-22	
LOCATION	S. F. AUSTIN LG. A-3		R. KUYKENDALL LG., A-39		SEC. 22, BLK. A-7, H&GN RR	
OWNER	REALITOS ENERGY CORP.		REALITOS ENERGY CORP.		AMERICAN QUASAR PETROLEUM CO	
COMPLETED	05/17/77		05/12/78		06/21/79	
SAMPLED	02/25/79		02/25/79		10/05/79	
FORMATION	OLIG-FRIO		OLIG-FRIO		DEVO-HUNTON	
GEOLOGIC PROVINCE CODE	220		220		360	
DEPTH, FEET	5200		5700		19182	
WELLHEAD PRESSURE,PSIG	1785		1985		3745	
OPEN FLOW, MCFD	6700		3600		33000	
COMPONENT, MOLE PCT						
METHANE	97.7	----------	96.9	----------	96.9	----------
ETHANE	1.2		2.0		0.9	
PROPANE	0.1	----------	0.1	----------	0.2	----------
N-BUTANE	TRACE		0.1		0.1	
ISOBUTANE	TRACE	----------	0.0	----------	TRACE	----------
N-PENTANE	TRACE		0.0		0.1	
ISOPENTANE	0.0	----------	TRACE	----------	TRACE	----------
CYCLOPENTANE	TRACE		TRACE		TRACE	
HEXANES PLUS	0.1	----------	0.1	----------	0.1	----------
NITROGEN	0.4		0.4		0.7	
OXYGEN	0.1	----------	TRACE	----------	0.0	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	TRACE	----------	TRACE	----------	0.0	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	0.3	----------	0.3	----------	1.0	----------
HELIUM	0.01		0.01		0.02	
HEATING VALUE*	1019	----------	1029	----------	1016	----------
SPECIFIC GRAVITY	0.568		0.573		0.579	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 178 SAMPLE 15607	INDEX 179 SAMPLE 15609	INDEX 180 SAMPLE 15610
STATE	TEXAS	TEXAS	TEXAS
COUNTY	WHEELER	WHEELER	WHEELER
FIELD	WHEELER	WHEELER	WHEELER
WELL NAME	BEEF CATTLE CO. NO. 1	MOORE NO. 1-A	IRONS NO. 1
LOCATION	SEC. 57, BLK. A8, H&GN SUR.	SEC. 58, BLK. 418, H&GN SUR.	SEC. 6, BLK. A4, H&GN SUR.
OWNER	NATOMAS NORTH AMERICA, INC.	NATOMAS NORTH AMERICA, INC.	NATOMAS NORTH AMERICA, INC.
COMPLETED	NOT GIVEN	NOT GIVEN	NOT GIVEN
SAMPLED	04/26/79	04/26/79	04/26/79
FORMATION	DEVO-HUNTON	DEVO-HUNTON	DEVO-HUNTON
GEOLOGIC PROVINCE CODE	360	360	360
DEPTH, FEET	NOT GIVEN	NOT GIVEN	14896
WELLHEAD PRESSURE,PSIG	NOT GIVEN	NOT GIVEN	3790
OPEN FLOW, MCFD	NOT GIVEN	NOT GIVEN	8106
COMPONENT, MOLE PCT			
METHANE	92.9	88.6	89.5
ETHANE	3.5	3.2	3.6
PROPANE	1.1	1.0	1.3
N-BUTANE	0.4	0.3	0.4
ISOBUTANE	0.1	0.1	0.1
N-PENTANE	0.2	0.1	0.1
ISOPENTANE	0.1	0.1	0.1
CYCLOPENTANE	0.1	TRACE	0.1
HEXANES PLUS	0.2	0.1	0.1
NITROGEN	0.6	4.4	3.2
OXYGEN	0.0	1.0	0.7
ARGON	0.0	TRACE	TRACE
HYDROGEN	TRACE	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.8	0.8	0.8
HELIUM	0.02	0.02	0.02
HEATING VALUE*	1077	1008	1039
SPECIFIC GRAVITY	0.618	0.622	0.626

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 181 SAMPLE 15720		INDEX 182 SAMPLE 15721		INDEX 183 SAMPLE 15587	
STATE	TEXAS		UTAH		UTAH	
COUNTY	WINKLER		GRAND		SUMMIT	
FIELD	LITTLE JOE		SALT WASH		ANSCHUTZ RANCH	
WELL NAME	UNIVERSITY 41-21 NO. 1		GOVERNMENT SMOOT NO. 3		ANSCHUTZ RANCH NO. 3-1	
LOCATION	SEC 41, BLK. 21, UNIV. SUR.		SEC. 17, T23S, R17E		SEC. 3, T3N, R7E	
OWNER	GETTY OIL CO.		RICHARD P. SMOOT		ANSCHUTZ CORP.	
COMPLETED	05/18/77		NOT GIVEN		03/15/79	
SAMPLED	08/06/79		08/--/79		03/15/79	
FORMATION	ORDO-ELLENBURGER		MISS-		JURA-TWIN CREEK	
GEOLOGIC PROVINCE CODE	430		585		570	
DEPTH, FEET	21000		8643		6672	
WELLHEAD PRESSURE,PSIG	5249		NOT GIVEN		1300	
OPEN FLOW, MCFD	13600		NOT GIVEN		1003	
COMPONENT, MOLE PCT						
METHANE	97.0	----------	12.1	----------	79.6	----------
ETHANE	1.0		2.3		7.1	
PROPANE	0.2	----------	2.0	----------	2.8	----------
N-BUTANE	0.1		1.1		1.0	
ISOBUTANE	TRACE	----------	0.7	----------	0.8	----------
N-PENTANE	0.1		0.4		0.4	
ISOPENTANE	TRACE	----------	0.3	----------	0.5	----------
CYCLOPENTANE	TRACE		TRACE		0.1	
HEXANES PLUS	0.1	----------	0.3	----------	0.4	----------
NITROGEN	0.4		75.6		7.2	
OXYGEN	0.0	----------	0.0	----------	0.0	----------
ARGON	TRACE		0.2		TRACE	
HYDROGEN	0.0	----------	0.0	----------	TRACE	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	1.0	----------	3.2	----------	0.1	----------
HELIUM	0.02		1.71		0.09	
HEATING VALUE*	1018	----------	322	----------	1130	----------
SPECIFIC GRAVITY	0.578		0.971		0.705	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 184 SAMPLE 15836	INDEX 185 SAMPLE 15593	INDEX 186 SAMPLE 15827
STATE	UTAH	UTAH	WEST VIRGINIA
COUNTY	UINTAH	UINTAH	MONONGALIA
FIELD	ISLAND	OURAY	GREER
WELL NAME	ISLAND UNIT NO. 9	CONOCO MOUNTAIN LION NO. 2	M. MILLER 12478
LOCATION	SEC. 11, T10S, R19E	SEC. 34, T8S, R21E	CLINTON DISTRICT
OWNER	WEXPRO CO.	CONTINENTAL OIL CO.	CONSOLIDATED GAS SUPPLY CORP
COMPLETED	08/06/79	12/29/78	NOT GIVEN
SAMPLED	11/15/79	03/27/79	10/30/79
FORMATION	EOCE-WASATCH	EOCE-WASATCH	DEVO-ONONDAGA
GEOLOGIC PROVINCE CODE	575	575	160
DEPTH, FEET	6088	5954	7496
WELLHEAD PRESSURE,PSIG	2300	2100	NOT GIVEN
OPEN FLOW, MCFD	5247	1350	2316
COMPONENT, MOLE PCT			
METHANE	89.0	92.9	97.2
ETHANE	7.1	4.0	1.7
PROPANE	2.0	1.3	0.1
N-BUTANE	0.4	0.3	0.1
ISOBUTANE	0.4	0.3	0.0
N-PENTANE	0.1	0.1	0.0
ISOPENTANE	0.2	0.3	0.1
CYCLOPENTANE	0.1	0.1	TRACE
HEXANES PLUS	0.2	0.2	TRACE
NITROGEN	0.1	0.3	0.5
OXYGEN	0.0	TRACE	0.0
ARGON	0.0	0.0	TRACE
HYDROGEN	0.0	TRACE	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.4	0.3	0.2
HELIUM	TRACE	0.01	0.02
HEATING VALUE*	1134	1098	1025
SPECIFIC GRAVITY	0.639	0.615	0.571

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 187 SAMPLE 15690		INDEX 188 SAMPLE 15791		INDEX 189 SAMPLE 15614	
STATE	WEST VIRGINIA		WYOMING		WYOMING	
COUNTY	WAYNE		BIG HORN		FREMONT	
FIELD	LOCKWOOD E		DOBIE CREEK		MADDEN DEEP	
WELL NAME	TRACT 1 NO.20530		DOBIE CREEK NO. 11-1		FLATT NO. 1	
LOCATION	EAST LYNN DISTRICT		SEC. 11, T49N, R94W		SEC. 28, T39N, R91W	
OWNER	COLUMBIA GAS TRANS. CORP.		AMERICAN QUASAR PETROLEUM CO		MONSANTO CO.	
COMPLETED	10/17/77		12/24/78		02/18/79	
SAMPLED	07/12/79		07/25/79		05/03/79	
FORMATION	MISS-BIG INJUN		CRET-FRONTIER		CRET-CODY	
GEOLOGIC PROVINCE CODE	160		520		530	
DEPTH, FEET	1390		NOT GIVEN		17859	
WELLHEAD PRESSURE,PSIG	430		2290		10432	
OPEN FLOW, MCFD	3890		30		2103	
COMPONENT, MOLE PCT						
METHANE	84.6	----------	85.3	----------	96.9	----------
ETHANE	6.2		8.4		0.1	
PROPANE	2.7	----------	3.1	----------	TRACE	----------
N-BUTANE	0.5		0.8		0.0	
ISOBUTANE	0.2	----------	0.5	----------	0.0	----------
N-PENTANE	0.1		0.2		0.0	
ISOPENTANE	TRACE	----------	0.2	----------	0.0	----------
CYCLOPENTANE	TRACE		TRACE		0.0	
HEXANES PLUS	0.1	----------	0.1	----------	0.0	----------
NITROGEN	5.1		1.2		0.3	
OXYGEN	0.0	----------	0.2	----------	0.0	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	0.1	----------	0.0	----------	TRACE	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	TRACE	----------	0.1	----------	2.6	----------
HELIUM	0.27		0.01		TRACE	
HEATING VALUE*	1071	----------	1161	----------	983	----------
SPECIFIC GRAVITY	0.646		0.665		0.581	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 190 SAMPLE 15590	INDEX 191 SAMPLE 15591	INDEX 192 SAMPLE 15625
STATE	WYOMING	WYOMING	WYOMING
COUNTY	FREMONT	FREMONT	NIOBRARA
FIELD	MUDDY RIDGE	MUDDY RIDGE	BUCK CREEK
WELL NAME	TRIBAL-CHEVRON NO. 30-11	TRIBAL-CHEVRON NO. 30-11	MAYNARD FEDERAL NO. 43-18
LOCATION	SEC. 30, T4N, R3E	SEC. 30, T4N, R3E	SEC. 18, T36N, R63W
OWNER	TOM BROWN, INC.	TOM BROWN, INC.	BURLINGTON NORTHERN ET AL
COMPLETED	12/15/78	12/15/78	03/23/78
SAMPLED	03/21/79	03/21/79	05/23/79
FORMATION	CRET-MESAVERDE	CRET-MESAVERDE	PENN-LEO
GEOLOGIC PROVINCE CODE	530	530	515
DEPTH, FEET	12435	11880	6180
WELLHEAD PRESSURE,PSIG	4200	3600	1800
OPEN FLOW, MCFD	1700	1200	1599
COMPONENT, MOLE PCT			
METHANE	90.4	85.8	32.7
ETHANE	5.5	8.2	5.7
PROPANE	1.2	2.9	3.3
N-BUTANE	0.3	0.6	1.4
ISOBUTANE	0.3	0.6	0.6
N-PENTANE	0.1	0.1	0.5
ISOPENTANE	0.2	0.3	0.5
CYCLOPENTANE	0.1	TRACE	0.1
HEXANES PLUS	0.1	0.1	0.3
NITROGEN	0.2	0.3	39.6
OXYGEN	0.0	TRACE	TRACE
ARGON	TRACE	TRACE	0.1
HYDROGEN	TRACE	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.6	1.0	14.3
HELIUM	TRACE	TRACE	0.76
HEATING VALUE*	1087	1154	648
SPECIFIC GRAVITY	0.629	0.663	0.974

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 193 SAMPLE 15714	INDEX 194 SAMPLE 15709	INDEX 195 SAMPLE 15613
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SUBLETTE	SUBLETTE	SWEETWATER
FIELD	FOGARTY CREEK	JOHNSON RIDGE	HIGGINS
WELL NAME	FOGARTY CREEK UNIT 7-9	S 27-33	HIGGINS NO. 7
LOCATION	SEC. 9, T28N, R114W	SEC. 33, T30N, R113W	SEC. 33, T18N, R98W
OWNER	BELCO PETROLEUM CORP.	BELCO PETROLEUM CORP.	CHAMPLIN PETROLEUM CO.
COMPLETED	11/14/77	12/17/78	05/06/78
SAMPLED	07/27/79	07/27/79	04/30/78
FORMATION	CRET-FRONTIER	EOCE-FORT UNION	JURA-NUGGET
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	7166	2150	16030
WELLHEAD PRESSURE,PSIG	1875	NOT GIVEN	4200
OPEN FLOW, MCFD	2328	2229	6000
COMPONENT, MOLE PCT			
METHANE	85.9	85.9	93.5
ETHANE	5.4	7.3	2.6
PROPANE	3.7	2.9	0.5
N-BUTANE	1.2	0.6	0.1
ISOBUTANE	1.1	0.8	0.1
N-PENTANE	0.3	0.2	0.1
ISOPENTANE	0.4	0.2	0.1
CYCLOPENTANE	0.1	0.1	TRACE
HEXANES PLUS	0.3	0.1	0.1
NITROGEN	1.6	0.8	0.9
OXYGEN	0.0	TRACE	TRACE
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	0.1	1.2	2.0
HELIUM	0.03	0.02	0.04
HEATING VALUE*	1189	1149	1027
SPECIFIC GRAVITY	0.684	0.668	0.605

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 196 SAMPLE 15743	INDEX 197 SAMPLE 15642	INDEX 198 SAMPLE 15790
STATE	WYOMING	WYOMING	WYOMING
COUNTY	SWEETWATER	SWEETWATER	SWEETWATER
FIELD	LOST CREEK	PICKETT LAKE UNIT	TIERNEY
WELL NAME	RED DESERT NO. 1	PICKETT LAKE NO. 1	TIERNEY II UNIT NO. 4-22
LOCATION	SEC. 4, T23N, R94W	SEC. 24, T26N, R97W	SEC. 22, T19N, R94W
OWNER	MICHIGAN WISCONSIN PL CO.	DAVIS OIL CO.	MARATHON OIL CO.
COMPLETED	08/10/78	02/09/79	05/28/79
SAMPLED	09/05/79	06/12/79	09/27/79
FORMATION	CRET-LEWIS	CRET-LEWIS	CRET-MESAVERDE
GEOLOGIC PROVINCE CODE	535	535	535
DEPTH, FEET	11794	13142	9567
WELLHEAD PRESSURE,PSIG	4900	6275	NOT GIVEN
OPEN FLOW, MCFD	1825	8198	2109
COMPONENT, MOLE PCT			
METHANE	85.7	88.0	80.3
ETHANE	8.1	6.7	9.1
PROPANE	2.8	1.4	4.3
N-BUTANE	0.5	0.2	0.9
ISOBUTANE	0.6	0.5	0.9
N-PENTANE	0.1	0.1	0.2
ISOPENTANE	0.2	0.3	0.2
CYCLOPENTANE	TRACE	0.1	TRACE
HEXANES PLUS	0.1	0.3	0.1
NITROGEN	0.2	0.5	0.3
OXYGEN	0.0	0.0	0.0
ARGON	0.0	0.0	0.0
HYDROGEN	0.0	TRACE	0.0
HYDROGEN SULFIDE**	0.0	0.0	0.0
CARBON DIOXIDE	1.6	1.8	3.5
HELIUM	TRACE	TRACE	0.01
HEATING VALUE*	1141	1108	1171
SPECIFIC GRAVITY	0.663	0.648	0.714

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 199 SAMPLE 15575		INDEX 200 SAMPLE 15647		INDEX 201 SAMPLE 15648	
STATE	WYOMING		WYOMING		WYOMING	
COUNTY	UINTA		UINTA		UINTA	
FIELD	BUTCHER KNIFE SPRING		YELLOW CREEK		YELLOW CREEK	
WELL NAME	BUTCHER KNIFE SPRING NO. 6		BURNT HILL STATE NO. 1-31		BURNT HILL STATE NO. 2-31	
LOCATION	SEC. 22, T14N, R113W		SEC. 31, T15N, R120W		SEC. 31, T15N, R120W	
OWNER	WEXPRO CO.		MESA PETROLEUM CO.		MESA PETROLEUM CO.	
COMPLETED	11/18/78		10/20/78		01/15/79	
SAMPLED	03/06/79		06/09/79		06/09/79	
FORMATION	CRET-DAKOTA		JURA-TWIN CREEK		JURA-TWIN CREEK	
GEOLOGIC PROVINCE CODE	535		535		535	
DEPTH, FEET	13319		6007		5733	
WELLHEAD PRESSURE,PSIG	5100		1575		1600	
OPEN FLOW, MCFD	8000		9000		12500	
COMPONENT, MOLE PCT						
METHANE	85.0	----------	77.4	----------	77.4	----------
ETHANE	7.5		9.0		9.1	
PROPANE	2.9	----------	4.1	----------	4.1	----------
N-BUTANE	0.7		1.2		1.2	
ISOBUTANE	0.7	----------	1.2	----------	1.1	----------
N-PENTANE	0.2		0.3		0.3	
ISOPENTANE	0.6	----------	0.5	----------	0.4	----------
CYCLOPENTANE	0.2		0.1		TRACE	
HEXANES PLUS	0.6	----------	0.3	----------	0.2	----------
NITROGEN	1.3		5.9		6.1	
OXYGEN	0.1	----------	0.0	----------	0.0	----------
ARGON	0.0		TRACE		TRACE	
HYDROGEN	0.1	----------	TRACE	----------	TRACE	----------
HYDROGEN SULFIDE**	0.0		0.0		0.0	
CARBON DIOXIDE	0.2	----------	TRACE	----------	TRACE	----------
HELIUM	0.02		0.08		0.08	
HEATING VALUE*	1191	----------	1186	----------	1171	----------
SPECIFIC GRAVITY	0.683		0.726		0.719	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 202 SAMPLE 15832		
STATE	WYOMING		
COUNTY	UINTA		
FIELD	YELLOW CREEK		
WELL NAME	YELLOW CREEK NO. 3-36		
LOCATION	SEC. 36, T15N, R121W		
OWNER	WEXPRO CO.		
COMPLETED	05/15/79		
SAMPLED	11/07/79		
FORMATION	JURA-TWIN CREEK		
GEOLOGIC PROVINCE CODE	535		
DEPTH, FEET	5770		
WELLHEAD PRESSURE,PSIG	2550		
OPEN FLOW, MCFD	9044		
COMPONENT, MOLE PCT			
METHANE	76.9		
ETHANE	9.3		
PROPANE	4.3		
N-BUTANE	1.3		
ISOBUTANE	1.3		
N-PENTANE	0.3		
ISOPENTANE	0.5		
CYCLOPENTANE	TRACE		
HEXANES PLUS	0.2		
NITROGEN	5.7		
OXYGEN	0.0		
ARGON	TRACE		
HYDROGEN	0.0		
HYDROGEN SULFIDE**	0.0		
CARBON DIOXIDE	TRACE		
HELIUM	0.07		
HEATING VALUE*	1189		
SPECIFIC GRAVITY	0.726		

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY
** DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 1 SAMPLE 15864	INDEX 2 SAMPLE 15865	INDEX 3 SAMPLE 15862
STATE	ALABAMA	ALABAMA	ALABAMA
COUNTY	HALE	MARENGO	PICKENS
FIELD	LOUISIANA	GULF COAST AREA	LOUISIANA
PLANT NAME	GALLION COMPRESSOR	LINDEN COMPRESSOR	REFORM COMPRESSOR
LOCATION	2-18&1-24 INCH	1-30,2-36&1-42 INCH	1-22&1-24 INCH
OWNER	SOUTHERN NATURAL GAS CO.	TRANSCONTINENTAL GAS PL CORP	SOUTHERN NATURAL GAS CO.
SAMPLED	12/17/79	12/17/79	12/14/79
FORMATION	NOT GIVEN	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE	210	210	200
PRESSURE,PSIG	1180	560	482
FLOW,MCFD	940000	3000000	388000
COMPONENT, MOLE PCT			
METHANE	96.8	96.5	96.8
ETHANE	1.6	1.8	1.7
PROPANE	0.3	0.3	0.2
N-BUTANE	0.1	0.1	0.1
ISOBUTANE	0.1	0.1	TRACE
N-PENTANE	TRACE	TRACE	TRACE
ISOPENTANE	TRACE	TRACE	0.0
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.1	0.1	TRACE
NITROGEN	0.4	0.4	0.5
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	0.7	0.7	0.6
HELIUM	TRACE	TRACE	TRACE
HEATING VALUE*	1029	1029	1020
SPECIFIC GRAVITY	0.580	0.580	0.574

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 4 SAMPLE 15863		INDEX 5 SAMPLE 15677		INDEX 6 SAMPLE 15678	
STATE	ALABAMA		ARKANSAS		ARKANSAS	
COUNTY	PICKENS		CLARK		CLARK	
FIELD	LOUISIANA		LA. & ARK.		OKLA., ARK., LA.	
PLANT NAME	REFORM COMPRESSOR		BEIRNE COMPRESSOR STATION		BEIRNE COMPRESSOR STATION	
LOCATION	24 INCH		18 IN. A LINE		20 IN.	
OWNER	SOUTHERN NATURAL GAS CO.		ARKANSAS LOUISIANA GAS CO.		ARKANSAS LOUISIANA GAS CO.	
SAMPLED	12/14/79		06/26/78		06/26/79	
FORMATION	NOT GIVEN		NOT GIVEN		NOT GIVEN	
GEOLOGIC PROVINCE CODE	200		400		400	
PRESSURE,PSIG	730		640		620	
FLOW,MCFD	322000		NOT GIVEN		NOT GIVEN	
COMPONENT, MOLE PCT						
METHANE	96.7	----------	87.3	----------	93.2	----------
ETHANE	1.9		4.9		3.2	
PROPANE	0.3	----------	1.3	----------	0.8	----------
N-BUTANE	0.1		0.3		0.2	
ISOBUTANE	0.1	----------	0.2	----------	0.1	----------
N-PENTANE	TRACE		0.1		0.1	
ISOPENTANE	TRACE	----------	0.1	----------	0.0	----------
CYCLOPENTANE	TRACE		TRACE		TRACE	
HEXANES PLUS	TRACE	----------	0.1	----------	0.1	----------
NITROGEN	0.5		4.7		0.7	
OXYGEN	0.0	----------	0.0	----------	0.1	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	TRACE	----------	TRACE	----------	TRACE	----------
HYDROGEN SULFIDE	0.0		0.0		0.0	
CARBON DIOXIDE	0.2	----------	0.8	----------	1.6	----------
HELIUM	0.01		0.03		0.04	
HEATING VALUE*	1028	----------	1036	----------	1042	----------
SPECIFIC GRAVITY	0.573		0.632		0.607	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 7 SAMPLE 15851	INDEX 8 SAMPLE 15852	INDEX 9 SAMPLE 15676
STATE	ARKANSAS	ARKANSAS	ARKANSAS
COUNTY	HOT SPRING	HOT SPRING	LOGAN
FIELD	GULF COAST AREA	GULF COAST AREA	ARKANSAS FIELDS
PLANT NAME	DONALDSON COMPRESSOR NO. 4	MALVERN COMPRESSOR NO. 306	DUNN JUNCTION
LOCATION	24 INCH	2-30 & 1-36 IN.	16 IN.
OWNER	TEXAS EASTERN TRANS. CORP.	NATURAL GAS PL CO. OF AM.	ARKANSAS LOUISIANA GAS CO.
SAMPLED	12/11/79	12/11/79	06/25/79
FORMATION	NOT GIVEN	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE	400	400	345
PRESSURE,PSIG	713	858	800
FLOW,MCFD	200000	1600000	80000
COMPONENT, MOLE PCT			
METHANE	93.8	96.6	97.4
ETHANE	3.3	1.6	1.2
PROPANE	0.6	0.4	0.1
N-BUTANE	0.2	0.1	0.0
ISOBUTANE	0.1	0.1	0.0
N-PENTANE	0.1	0.1	0.0
ISOPENTANE	TRACE	TRACE	0.0
CYCLOPENTANE	TRACE	TRACE	0.0
HEXANES PLUS	0.1	0.1	0.0
NITROGEN	0.6	0.5	0.4
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	0.0
HYDROGEN	0.0	0.0	TRACE
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	1.3	0.6	0.7
HELIUM	0.01	0.01	0.07
HEATING VALUE*	1044	1034	1011
SPECIFIC GRAVITY	0.601	0.582	0.569

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 10 SAMPLE 15675		INDEX 11 SAMPLE 15767		INDEX 12 SAMPLE 15768	
STATE	ARKANSAS		CALIFORNIA		CALIFORNIA	
COUNTY	LOGAN		CONTRA COSTA		CONTRA COSTA	
FIELD	TEXAS,OKLAHOMA & ARKANSAS		CANADIAN GAS		SACRAMENTO RIVER E	
PLANT NAME	DUNN COMPRESSOR STATION		ANTIOCH TERMINAL		ANTIOCH TERMINAL	
LOCATION	30 IN.		36 IN LINE NO. 400		12 & 16 IN STAN PAK 4	
OWNER	ARKANSAS LOUISIANA GAS CO.		PACIFIC GAS & ELECTRIC CO.		PACIFIC GAS & ELECTRIC CO.	
SAMPLED	06/25/79		09/12/79		09/12/79	
FORMATION	NOT GIVEN		NOT GIVEN		NOT GIVEN	
GEOLOGIC PROVINCE CODE	345		730		730	
PRESSURE,PSIG	870		510		310	
FLOW,MCFD	325000		248000		20000	
COMPONENT, MOLE PCT						
METHANE	94.8	----------	89.3	----------	93.8	----------
ETHANE	2.1	----------	3.1	----------	2.9	----------
PROPANE	0.4	----------	0.3	----------	0.6	----------
N-BUTANE	0.1	----------	0.0	----------	0.1	----------
ISOBUTANE	TRACE	----------	0.0	----------	0.1	----------
N-PENTANE	TRACE	----------	0.0	----------	TRACE	----------
ISOPENTANE	TRACE	----------	0.0	----------	0.1	----------
CYCLOPENTANE	TRACE	----------	0.0	----------	TRACE	----------
HEXANES PLUS	0.1	----------	0.0	----------	0.1	----------
NITROGEN	0.5	----------	5.8	----------	1.8	----------
OXYGEN	0.0	----------	1.1	----------	0.0	----------
ARGON	TRACE	----------	0.1	----------	TRACE	----------
HYDROGEN	TRACE	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE	0.0	----------	0.0	----------	0.0	----------
CARBON DIOXIDE	1.8	----------	0.4	----------	0.5	----------
HELIUM	0.05	----------	TRACE	----------	TRACE	----------
HEATING VALUE*	1017	----------	968	----------	1034	----------
SPECIFIC GRAVITY	0.591	----------	0.608	----------	0.594	----------

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 13 SAMPLE 15766		INDEX 14 SAMPLE 15763		INDEX 15 SAMPLE 15775	
STATE	CALIFORNIA		CALIFORNIA		CALIFORNIA	
COUNTY	CONTRA COSTA		FRESNO		KERN	
FIELD	SACRAMENTO RIVER W		CHENEY		BELRIDGE N	
PLANT NAME	ANTIOCH TERMINAL		CHENEY COMPRESSOR		BELRIDGE	
LOCATION	16 IN LINE NO. 114		4 IN DISCHARGE		16 IN. LINE NO. 102	
OWNER	PACIFIC GAS & ELECTRIC CO.		PACIFIC GAS & ELECTRIC CO.		SOUTHERN CALIFORNIA GAS CO.	
SAMPLED	09/12/79		09/11/79		09/18/79	
FORMATION	NOT GIVEN		NOT GIVEN		NOT GIVEN	
GEOLOGIC PROVINCE CODE	730		745		745	
PRESSURE,PSIG	310		360		390	
FLOW,MCFD	22000		550		10000	
COMPONENT, MOLE PCT						
METHANE	93.5	----------	84.9	----------	92.6	----------
ETHANE	2.9		5.4		4.5	
PROPANE	0.7	----------	4.3	----------	0.3	----------
N-BUTANE	0.2		1.2		TRACE	
ISOBUTANE	0.1	----------	1.3	----------	0.0	----------
N-PENTANE	0.0		0.3		TRACE	
ISOPENTANE	0.1	----------	0.5	----------	0.0	----------
CYCLOPENTANE	0.1		0.1		TRACE	
HEXANES PLUS	0.1	----------	0.2	----------	0.1	----------
NITROGEN	2.0		1.5		0.9	
OXYGEN	0.0	----------	0.0	----------	TRACE	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	0.0	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE	0.0		0.0		0.0	
CARBON DIOXIDE	0.4	----------	0.4	----------	1.5	----------
HELIUM	TRACE		0.01		TRACE	
HEATING VALUE*	1041	----------	1201	----------	1032	----------
SPECIFIC GRAVITY	0.599		0.695		0.600	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 16 SAMPLE 15778	INDEX 17 SAMPLE 15776	INDEX 18 SAMPLE 15777
STATE	CALIFORNIA	CALIFORNIA	CALIFORNIA
COUNTY	KERN	KERN	KERN
FIELD	CYMRIC	GOSFORD	YOWLUMNE
PLANT NAME	GETTY OIL CO.-M4320	METER STATION 3628	METER STATION 5240
LOCATION	10 IN. LINE NO. 133	4 IN. LINE NO. 5024	4 IN. LINE NO. 5023
OWNER	SOUTHERN CALIFORNIA GAS CO.	SOUTHERN CALIFORNIA GAS CO.	SOUTHERN CALIFORNIA GAS CO.
SAMPLED	09/18/79	09/18/79	09/18/79
FORMATION	NOT GIVEN	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE	745	745	745
PRESSURE,PSIG	390	380	380
FLOW,MCFD	5000	1500	7000
COMPONENT, MOLE PCT			
METHANE	87.8	86.5	82.0
ETHANE	5.2	7.1	9.5
PROPANE	0.1	3.3	4.8
N-BUTANE	0.1	0.7	0.7
ISOBUTANE	0.0	0.3	0.5
N-PENTANE	TRACE	0.1	0.0
ISOPENTANE	TRACE	0.1	TRACE
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	TRACE	TRACE	0.1
NITROGEN	3.0	0.9	0.6
OXYGEN	0.2	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	3.5	0.9	1.8
HELIUM	TRACE	0.01	TRACE
HEATING VALUE*	989	1131	1171
SPECIFIC GRAVITY	0.630	0.654	0.690

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 19 SAMPLE 15762		INDEX 20 SAMPLE 15785		INDEX 21 SAMPLE 15786	
STATE	CALIFORNIA		CALIFORNIA		CALIFORNIA	
COUNTY	KINGS		LOS ANGELES		LOS ANGELES	
FIELD	TEXAS GAS		CASTAIC, PICO PORTERIO		INGLEWOOD	
PLANT NAME	KETTLEMAN COMPRESSOR		SUN GAS-M4512		AMINOIL-M2812	
LOCATION	2-34 IN DISCHARGE		8 IN.		10 IN.	
OWNER	PACIFIC GAS & ELECTRIC CO.		SOUTHERN CALIFORNIA GAS CO.		SOUTHERN CALIFORNIA GAS CO.	
SAMPLED	09/11/79		09/19/79		09/20/79	
FORMATION	NOT GIVEN		NOT GIVEN		NOT GIVEN	
GEOLOGIC PROVINCE CODE	745		760		760	
PRESSURE,PSIG	604		272		154	
FLOW,MCFD	650000		2100		3000	
COMPONENT, MOLE PCT						
METHANE	88.9	----------	96.2	----------	88.9	----------
ETHANE	7.1		3.2		6.5	
PROPANE	1.5	----------	TRACE	----------	0.8	----------
N-BUTANE	0.2		0.0		TRACE	
ISOBUTANE	0.1	----------	0.0	----------	TRACE	----------
N-PENTANE	TRACE		0.0		TRACE	
ISOPENTANE	TRACE	----------	0.0	----------	TRACE	----------
CYCLOPENTANE	TRACE		0.0		TRACE	
HEXANES PLUS	0.1	----------	0.0	----------	TRACE	----------
NITROGEN	1.3		0.4		1.0	
OXYGEN	0.0	----------	0.0	----------	0.2	----------
ARGON	TRACE		0.0		TRACE	
HYDROGEN	0.0	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE	0.0		0.0		0.0	
CARBON DIOXIDE	0.8	----------	0.1	----------	2.5	----------
HELIUM	0.03		TRACE		TRACE	
HEATING VALUE*	1082	----------	1032	----------	1038	----------
SPECIFIC GRAVITY	0.625		0.572		0.624	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 22 SAMPLE 15764		INDEX 23 SAMPLE 15772		INDEX 24 SAMPLE 15769	
STATE	CALIFORNIA		CALIFORNIA		CALIFORNIA	
COUNTY	MADERA		SACRAMENTO		SACRAMENTO	
FIELD	VERNALIS		BEEHIVE BEND AREA		RIO VISTA E	
PLANT NAME	VERNALIS COMPRESSOR		P.G. & E. LOAD CENTER		DEHYDRATOR STATION 196	
LOCATION	6 IN SUCTION		12 IN.		12 IN.	
OWNER	PACIFIC GAS & ELECTRIC CO.		PACIFIC GAS & ELECTRIC CO.		PACIFIC GAS & ELECTRIC CO.	
SAMPLED	09/12/79		09/14/79		09/13/79	
FORMATION	NOT GIVEN		NOT GIVEN		NOT GIVEN	
GEOLOGIC PROVINCE CODE	745		730		730	
PRESSURE,PSIG	150		500		700	
FLOW,MCFD	6000		800		40000	
COMPONENT, MOLE PCT						
METHANE	89.4	----------	92.1	----------	92.7	----------
ETHANE	0.6		2.4		3.4	
PROPANE	0.1	----------	0.2	----------	1.2	----------
N-BUTANE	0.0		0.0		0.3	
ISOBUTANE	0.0	----------	0.0	----------	0.2	----------
N-PENTANE	0.0		0.0		TRACE	
ISOPENTANE	0.0	----------	0.0	----------	0.2	----------
CYCLOPENTANE	0.0		0.0		0.1	
HEXANES PLUS	0.0	----------	0.0	----------	0.1	----------
NITROGEN	9.9		5.1		1.7	
OXYGEN	0.0	----------	0.0	----------	0.0	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	0.0	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE	0.0		0.0		0.0	
CARBON DIOXIDE	0.1	----------	0.2	----------	0.2	----------
HELIUM	0.01		0.02		TRACE	
HEATING VALUE*	919	----------	981	----------	1065	----------
SPECIFIC GRAVITY	0.601		0.591		0.609	

* CALCULATED GROSS BTU PER CU FT. DRY. AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 25 SAMPLE 15765	INDEX 26 SAMPLE 15781	INDEX 27 SAMPLE 15780
STATE	CALIFORNIA	CALIFORNIA	CALIFORNIA
COUNTY	SAN JOAQUIN	SANTA BARBARA	SANTA BARBARA
FIELD	LATHROP	MOLINO	SANTA MARIA, ET AL
PLANT NAME	LATHROP GATHERING	SHELL MOLINO-M3450	UNION OIL BATTLES-M5805
LOCATION	12 IN SUCTION	10 IN. NO. 260	10 IN. DISCHARGE
OWNER	PACIFIC GAS & ELECTRIC CO.	SOUTHERN CALIFORNIA GAS CO.	SOUTHERN CALIFORNIA GAS CO.
SAMPLED	NOT GIVEN	09/19/79	09/19/79
FORMATION	NOT GIVEN	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE	730	750	750
PRESSURE,PSIG	200	750	400
FLOW,MCFD	15000	5000	8000
COMPONENT, MOLE PCT			
METHANE	85.6	81.9	80.4
ETHANE	0.5	7.2	6.7
PROPANE	TRACE	6.4	2.4
N-BUTANE	0.0	1.3	0.1
ISOBUTANE	0.0	1.2	0.0
N-PENTANE	0.0	0.3	TRACE
ISOPENTANE	0.0	0.6	TRACE
CYCLOPENTANE	0.0	0.2	TRACE
HEXANES PLUS	0.0	0.4	TRACE
NITROGEN	13.5	0.3	3.3
OXYGEN	0.0	0.0	0.4
ARGON	TRACE	0.0	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	0.4	0.0	6.6
HELIUM	0.01	TRACE	TRACE
HEATING VALUE*	876	1275	1000
SPECIFIC GRAVITY	0.617	0.723	0.693

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 28 SAMPLE 15770	INDEX 29 SAMPLE 15771	INDEX 30 SAMPLE 15773
STATE	CALIFORNIA	CALIFORNIA	CALIFORNIA
COUNTY	SOLANO	SOLANO	SUTTER
FIELD	LINDSEY SLOUGH	MILLAR W. ET AL	NORTHERN CAL. GAS
PLANT NAME	SERPA JUNCTION	MILLAR DEHYDRATOR	YUBA CITY
LOCATION	12 IN.	10 IN.	34 IN.
OWNER	PACIFIC GAS & ELECTRIC CO.	PACIFIC GAS & ELECTRIC CO.	PACIFIC GAS & ELECTRIC CO.
SAMPLED	09/13/79	09/13/79	09/14/79
FORMATION	NOT GIVEN	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE	730	730	730
PRESSURE,PSIG	500	550	500
FLOW,MCFD	70000	7000	25000
COMPONENT, MOLE PCT			
METHANE	90.9	83.3	94.4
ETHANE	3.6	1.1	0.4
PROPANE	1.4	0.2	TRACE
N-BUTANE	0.3	0.1	TRACE
ISOBUTANE	0.2	TRACE	0.0
N-PENTANE	0.1	TRACE	TRACE
ISOPENTANE	0.2	TRACE	0.0
CYCLOPENTANE	0.1	TRACE	TRACE
HEXANES PLUS	0.2	0.1	0.1
NITROGEN	2.8	15.1	5.0
OXYGEN	0.0	0.0	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	0.2	0.1	0.1
HELIUM	TRACE	0.01	TRACE
HEATING VALUE*	1065	877	969
SPECIFIC GRAVITY	0.620	0.629	0.580

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 31 SAMPLE 15782	INDEX 32 SAMPLE 15784	INDEX 33 SAMPLE 15783
STATE	CALIFORNIA	CALIFORNIA	CALIFORNIA
COUNTY	VENTURA	VENTURA	VENTURA
FIELD	RINCON OFFSHORE	TORREY CANYON	VENTURA
PLANT NAME	MOBIL OIL RINCON-M3372	UNION OIL-M2723	GETTY NO. 7-M3374
LOCATION	16 IN. LINE NO. 1004	10 IN.	6 IN.
OWNER	SOUTHERN CALIFORNIA GAS CO.	SOUTHERN CALIFORNIA GAS CO.	SOUTHERN CALIFORNIA GAS CO.
SAMPLED	09/19/79	09/19/79	09/19/79
FORMATION	NOT GIVEN	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE	958	755	755
PRESSURE,PSIG	750	285	150
FLOW,MCFD	7000	11500	6000
COMPONENT, MOLE PCT			
METHANE	82.4	89.7	86.4
ETHANE	2.4	6.2	5.5
PROPANE	5.2	2.3	1.6
N-BUTANE	2.4	0.3	TRACE
ISOBUTANE	0.7	0.2	TRACE
N-PENTANE	0.3	TRACE	TRACE
ISOPENTANE	0.4	TRACE	TRACE
CYCLOPENTANE	0.2	TRACE	TRACE
HEXANES PLUS	0.1	TRACE	TRACE
NITROGEN	0.1	0.8	4.2
OXYGEN	0.0	0.0	0.8
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	0.0	0.0
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	5.8	0.4	1.4
HELIUM	TRACE	TRACE	TRACE
HEATING VALUE*	1160	1096	1015
SPECIFIC GRAVITY	0.742	0.622	0.632

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 34 SAMPLE 15774	INDEX 35 SAMPLE 15671	INDEX 36 SAMPLE 15659
STATE	CALIFORNIA	KANSAS	KANSAS
COUNTY	YOLO	CHASE	GRANT
FIELD	NORTHERN CAL. GAS	PAMPA & WESTERN OKLAHOMA	HUGOTON
PLANT NAME	HERSHEY JUNCTION	MATFIELD COMPRESSOR STATION	HUGOTON COMPRESSOR STATION
LOCATION	20 IN. INLET	20 IN.	26 IN AMOCO A & B
OWNER	PACIFIC GAS & ELECTRIC CO.	CITIES SERVICE GAS CO.	CITIES SERVICE GAS CO.
SAMPLED	09/14/79	06/21/79	06/19/79
FORMATION	NOT GIVEN	NOT GIVEN	PERM-CHASE GROUP
GEOLOGIC PROVINCE CODE	730	370	360
PRESSURE,PSIG	1000	307	320
FLOW,MCFD	100	NOT GIVEN	277600
COMPONENT, MOLE PCT			
METHANE	95.1	85.1	72.8
ETHANE	0.3	6.3	6.6
PROPANE	TRACE	2.1	2.7
N-BUTANE	0.0	0.1	0.2
ISOBUTANE	0.0	TRACE	0.1
N-PENTANE	0.0	TRACE	TRACE
ISOPENTANE	0.0	TRACE	TRACE
CYCLOPENTANE	0.0	TRACE	TRACE
HEXANES PLUS	0.0	0.1	TRACE
NITROGEN	4.5	5.5	17.0
OXYGEN	0.0	0.0	0.0
ARGON	0.0	TRACE	TRACE
HYDROGEN	0.0	TRACE	TRACE
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.3	TRACE
HELIUM	TRACE	0.26	0.45
HEATING VALUE*	969	1038	936
SPECIFIC GRAVITY	0.575	0.634	0.686

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 37 SAMPLE 15661		INDEX 38 SAMPLE 15662		INDEX 39 SAMPLE 15664	
STATE	KANSAS		KANSAS		KANSAS	
COUNTY	GRANT		GRANT		GRANT	
FIELD	HUGOTON		HUGOTON		HUGOTON	
PLANT NAME	HUGOTON COMPRESSOR STATION		HUGOTON COMPRESSOR STATION		HUGOTON COMPRESSOR STATION	
LOCATION	AMOCO C SYSTEM		20 IN. MOBIL LINE		26 IN. ASHLAND LINE	
OWNER	CITIES SERVICE GAS CO.		CITIES SERVICE GAS CO.		CITIES SERVICE GAS CO.	
SAMPLED	06/19/79		06/19/79		06/19/79	
FORMATION	PERM-CHASE GROUP		PERM-CHASE GROUP		PERM-CHASE GROUP	
GEOLOGIC PROVINCE CODE	360		360		360	
PRESSURE,PSIG	320		250		90	
FLOW,MCFD	39900		109350		88326	
COMPONENT, MOLE PCT						
METHANE	69.6	----------	74.1	----------	73.3	----------
ETHANE	4.6		6.2		5.9	
PROPANE	2.3	----------	3.1	----------	3.3	----------
N-BUTANE	0.7		0.5		0.9	
ISOBUTANE	0.3	----------	0.2	----------	0.4	----------
N-PENTANE	0.2		0.1		0.3	
ISOPENTANE	0.1	----------	TRACE	----------	0.1	----------
CYCLOPENTANE	TRACE		TRACE		0.1	
HEXANES PLUS	0.1	----------	TRACE	----------	0.2	----------
NITROGEN	21.5		15.2		14.9	
OXYGEN	0.0	----------	0.0	----------	0.0	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	TRACE	----------	TRACE	----------	TRACE	----------
HYDROGEN SULFIDE	0.0		0.0		0.0	
CARBON DIOXIDE	TRACE	----------	0.0	----------	0.0	----------
HELIUM	0.56		0.43		0.43	
HEATING VALUE*	899	----------	970	----------	1009	----------
SPECIFIC GRAVITY	0.710		0.689		0.710	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 40 SAMPLE 15658	INDEX 41 SAMPLE 15660	INDEX 42 SAMPLE 15663
STATE	KANSAS	KANSAS	KANSAS
COUNTY	GRANT	GRANT	GRANT
FIELD	HUGOTON	HUGOTON	HUGOTON
PLANT NAME	ULYSSES COMPRESSOR STATION	HUGOTON COMPRESSOR STATION	HUGOTON COMPRESSOR STATION
LOCATION	36 IN. STATION DISCHARGE	HELEX DISCHARGE	26 IN. DISCHARGE
OWNER	KANSAS POWER & LIGHT CO.	CITIES SERVICE GAS CO.	CITIES SERVICE GAS CO.
SAMPLED	06/19/79	06/19/79	06/19/79
FORMATION	NOT GIVEN	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE	360	360	360
PRESSURE,PSIG	480	320	NOT GIVEN
FLOW,MCFD	70000	438961	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	74.3	80.3	80.3
ETHANE	6.9	6.9	6.9
PROPANE	2.9	0.6	0.5
N-BUTANE	0.1	0.1	TRACE
ISOBUTANE	0.1	0.0	TRACE
N-PENTANE	TRACE	TRACE	TRACE
ISOPENTANE	TRACE	TRACE	TRACE
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	TRACE	0.1	TRACE
NITROGEN	15.1	12.0	12.1
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	TRACE	TRACE
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	TRACE	TRACE	TRACE
HELIUM	0.41	0.05	0.05
HEATING VALUE*	958	961	950
SPECIFIC GRAVITY	0.680	0.648	0.642

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 43 SAMPLE 15666	INDEX 44 SAMPLE 15665	INDEX 45 SAMPLE 15668
STATE	KANSAS	KANSAS	KANSAS
COUNTY	HARVEY	KINGMAN	LYON
FIELD	HUGOTON & P.E.P.L.	CENTRAL KANSAS AREA	HUGOTON
PLANT NAME	HESSTON COMPRESSOR STATION	CALISTA COMPRESSOR STATION	OLPE COMPRESSOR STATION
LOCATION	26 IN. DISCHARGE	18&16 IN. DISCHARGE	24 IN - 100 LINE
OWNER	CITIES SERVICE GAS CO.	KANSAS POWER & LIGHT CO.	PANHANDLE EASTERN PL. CO.
SAMPLED	06/20/79	06/20/79	06/21/79
FORMATION	NOT GIVEN	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE	375	375	335
PRESSURE,PSIG	700	360	455
FLOW,MCFD	300000	60000	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	80.6	76.8	89.7
ETHANE	6.5	6.4	3.7
PROPANE	0.6	2.5	0.6
N-BUTANE	0.1	0.3	0.1
ISOBUTANE	0.0	0.1	0.1
N-PENTANE	TRACE	0.1	TRACE
ISOPENTANE	TRACE	0.0	TRACE
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.1	0.1	0.1
NITROGEN	11.8	13.2	4.5
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	TRACE	TRACE
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	0.1	TRACE	1.0
HELIUM	0.08	0.38	0.16
HEATING VALUE*	957	980	1002
SPECIFIC GRAVITY	0.645	0.674	0.612

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 46 SAMPLE 15669	INDEX 47 SAMPLE 15670	INDEX 48 SAMPLE 15667
STATE	KANSAS	KANSAS	KANSAS
COUNTY	LYON	LYON	LYON
FIELD	HUGOTON	HUGOTON	WESTERN OKLAHOMA
PLANT NAME	OLPE COMPRESSOR STATION	OLPE COMPRESSOR STATION	OLPE COMPRESSOR STATION
LOCATION	26 IN. - 200 LINE	36 IN. - 400 LINE	30 IN - 300 LINE
OWNER	PANHANDLE EASTERN PL. CO.	PANHANDLE EASTERN PL. CO.	PANHANDLE EASTERN PL. CO.
SAMPLED	06/21/79	06/21/79	06/21/79
FORMATION	NOT GIVEN	NOT GIVEN	PERM-CHASE GROUP
GEOLOGIC PROVINCE CODE	335	335	335
PRESSURE,PSIG	635	772	637
FLOW,MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	89.8	87.7	80.9
ETHANE	3.8	3.1	8.1
PROPANE	0.6	0.4	2.8
N-BUTANE	0.2	0.1	0.4
ISOBUTANE	TRACE	0.0	0.1
N-PENTANE	TRACE	0.1	0.1
ISOPENTANE	TRACE	TRACE	0.1
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.1	TRACE	0.1
NITROGEN	4.3	7.6	6.6
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	TRACE	TRACE
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	1.0	0.7	0.4
HELIUM	0.16	0.27	0.22
HEATING VALUE*	1005	962	1068
SPECIFIC GRAVITY	0.611	0.614	0.666

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 49 SAMPLE 15657		INDEX 50 SAMPLE 15655		INDEX 51 SAMPLE 15654	
STATE	KANSAS		KANSAS		KANSAS	
COUNTY	MORTON		SEWARD		SEWARD	
FIELD	KEYES & GREENWOOD		ANADARKO AREA		HUGOTON	
PLANT NAME	ELKHART COMPRESSOR STATION		LIBERAL COMPRESSOR STATION		LIBERAL COMPRESSOR STATION	
LOCATION	24 IN. DISCHARGE		20 IN. HUBER LINE		16 IN. SEWARD CO. LINE	
OWNER	PANHANDLE EASTERN PL. CO.		PANHANDLE EASTERN PL. CO.		PANHANDLE EASTERN PL. CO.	
SAMPLED	06/19/79		06/18/79		06/18/79	
FORMATION	NOT GIVEN		PERM-CHASE GROUP		PERM-CHASE GROUP	
GEOLOGIC PROVINCE CODE	360		360		360	
PRESSURE,PSIG	375		400		190	
FLOW,MCFD	40000		NOT GIVEN		NOT GIVEN	
COMPONENT, MOLE PCT						
METHANE	43.1	----------	85.4	----------	75.5	----------
ETHANE	7.0		3.6		5.3	
PROPANE	17.3	----------	1.8	----------	2.8	----------
N-BUTANE	9.5		0.5		0.8	
ISOBUTANE	3.9	----------	0.2	----------	0.3	----------
N-PENTANE	2.9		0.2		0.2	
ISOPENTANE	3.2	----------	0.2	----------	0.2	----------
CYCLOPENTANE	0.4		0.1		TRACE	
HEXANES PLUS	1.5	----------	0.1	----------	0.1	----------
NITROGEN	10.8		6.5		14.1	
OXYGEN	0.0	----------	1.1	----------	0.0	----------
ARGON	0.0		TRACE		TRACE	
HYDROGEN	TRACE	----------	TRACE	----------	TRACE	----------
HYDROGEN SULFIDE	0.0		0.0		0.0	
CARBON DIOXIDE	0.0	----------	0.2	----------	TRACE	----------
HELIUM	0.40		0.11		0.45	
HEATING VALUE*	1816	----------	1026	----------	992	----------
SPECIFIC GRAVITY	1.171		0.647		0.691	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 52 SAMPLE 15656	INDEX 53 SAMPLE 15652	INDEX 54 SAMPLE 15653
STATE	KANSAS	KANSAS	KANSAS
COUNTY	SEWARD	SEWARD	SEWARD
FIELD	HUGOTON	HUGOTON, GREENWOOD & KEYES	PANHANDLE AREA
PLANT NAME	LIBERAL COMPRESSOR STATION	LIBERAL COMPRESSOR STATION	LIBERAL COMPRESSOR STATION
LOCATION	26 IN. GRANT CO. INLET	26 IN. HUGOTON INLET	24 & 26 IN. TEXAS 300 INLET
OWNER	PANHANDLE EASTERN PL. CO.	PANHANDLE EASTERN PL. CO.	PANHANDLE EASTERN PL. CO.
SAMPLED	06/18/79	06/18/79	06/18/79
FORMATION	PERM-CHASE GROUP	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE	360	360	360
PRESSURE,PSIG	490	490	500
FLOW,MCFD	NOT GIVEN	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE	76.0	75.6	87.4
ETHANE	6.4	6.8	4.5
PROPANE	2.8	3.1	1.0
N-BUTANE	0.7	0.7	0.1
ISOBUTANE	0.3	0.3	0.0
N-PENTANE	0.2	0.2	0.1
ISOPENTANE	0.1	0.2	0.0
CYCLOPENTANE	TRACE	TRACE	TRACE
HEXANES PLUS	0.1	0.1	TRACE
NITROGEN	12.8	12.3	6.4
OXYGEN	0.0	0.0	0.0
ARGON	TRACE	TRACE	TRACE
HYDROGEN	TRACE	TRACE	TRACE
HYDROGEN SULFIDE	0.0	0.0	0.0
CARBON DIOXIDE	0.1	0.3	0.1
HELIUM	0.38	0.37	0.22
HEATING VALUE*	1009	1024	1000
SPECIFIC GRAVITY	0.689	0.696	0.616

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 55 SAMPLE 15855		INDEX 56 SAMPLE 15859		INDEX 57 SAMPLE 15856	
STATE	MISSISSIPPI		MISSISSIPPI		MISSISSIPPI	
COUNTY	BOLIVAR		CALHOUN		COAHOMA	
FIELD	GULF COAST AREA		LOUISIANA		GULF COAST AREA	
PLANT NAME	SHAW COMPRESSOR AREA NO. 990		BANNER COMPRESSOR NO. 6		CLARKSDALE COMPRESSOR NO. 5	
LOCATION	26-30&36 INCH		2-30&1-36 INCH		2-26, 1-30 &1-36 INCH	
OWNER	TRUNKLINE GAS CO.		COLUMBIA GULF TRANS. CO.		TEXAS GAS TRANSMISSION CORP.	
SAMPLED	12/12/79		12/13/79		12/12/79	
FORMATION	NOT GIVEN		NOT GIVEN		NOT GIVEN	
GEOLOGIC PROVINCE CODE	240		200		240	
PRESSURE,PSIG	900		710		650	
FLOW,MCFD	1500000		1325000		1640000	
COMPONENT, MOLE PCT						
METHANE	97.2	----------	97.4	----------	96.2	----------
ETHANE	1.6		1.4		2.0	
PROPANE	0.3	----------	0.2	----------	0.2	----------
N-BUTANE	0.1		0.1		0.1	
ISOBUTANE	TRACE	----------	TRACE	----------	TRACE	----------
N-PENTANE	TRACE		TRACE		TRACE	
ISOPENTANE	0.0	----------	TRACE	----------	0.0	----------
CYCLOPENTANE	TRACE		TRACE		TRACE	
HEXANES PLUS	0.1	----------	TRACE	----------	0.1	----------
NITROGEN	0.3		0.2		0.5	
OXYGEN	0.0	----------	0.0	----------	0.0	----------
ARGON	TRACE		TRACE		0.0	
HYDROGEN	0.0	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE	0.0		0.0		0.0	
CARBON DIOXIDE	0.4	----------	0.5	----------	0.9	----------
HELIUM	TRACE		TRACE		TRACE	
HEATING VALUE*	1030	----------	1020	----------	1024	----------
SPECIFIC GRAVITY	0.574		0.569		0.581	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 58 SAMPLE 15858		INDEX 59 SAMPLE 15861		INDEX 60 SAMPLE 15860	
STATE	MISSISSIPPI		MISSISSIPPI		MISSISSIPPI	
COUNTY	GRENADA		LOWNDES		MONROE	
FIELD	GULF COAST AREA		GULF COAST AREA		GULF COAST AREA	
PLANT NAME	COFFEEVILLE COMPRESSOR NO. 8		COLUMBUS COMPRESSOR		EGYPT COMPRESSOR	
LOCATION	30 INCH		1-30&1-36 INCH		2-30 & 1-36 IN.	
OWNER	TENNESSEE GAS PIPELINE CO.		TENNESSEE GAS PIPELINE CO.		TEXAS EASTERN TRANS. CORP.	
SAMPLED	12/13/79		12/14/79		12/13/79	
FORMATION	NOT GIVEN		NOT GIVEN		NOT GIVEN	
GEOLOGIC PROVINCE CODE	200		200		200	
PRESSURE,PSIG	610		680		1000	
FLOW,MCFD	528000		636000		1850000	
COMPONENT, MOLE PCT						
METHANE	97.2	----------	97.6	----------	97.0	----------
ETHANE	1.5		1.5		1.6	
PROPANE	0.3	----------	0.1	----------	0.3	----------
N-BUTANE	0.0		0.0		0.1	
ISOBUTANE	0.0	----------	0.0	----------	0.1	----------
N-PENTANE	0.0		0.0		TRACE	
ISOPENTANE	0.0	----------	0.0	----------	TRACE	----------
CYCLOPENTANE	0.0		0.0		TRACE	
HEXANES PLUS	0.0	----------	0.0	----------	0.1	----------
NITROGEN	0.3		0.4		0.4	
OXYGEN	0.0	----------	0.0	----------	0.0	----------
ARGON	TRACE		0.0		TRACE	
HYDROGEN	0.0	----------	0.0	----------	0.0	----------
HYDROGEN SULFIDE	0.0		0.0		0.0	
CARBON DIOXIDE	0.7	----------	0.4	----------	0.5	----------
HELIUM	TRACE		TRACE		TRACE	
HEATING VALUE*	1019	----------	1018	----------	1031	----------
SPECIFIC GRAVITY	0.573		0.568		0.578	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 61 SAMPLE 15857		INDEX 62 SAMPLE 15866		INDEX 63 SAMPLE 15672	
STATE	MISSISSIPPI		MISSISSIPPI		OKLAHOMA	
COUNTY	PANOLA		PERRY		KAY	
FIELD	TEXAS AREA		TEXAS, LA. & OFFSHORE		CENTRAL OKLAHOMA	
PLANT NAME	BATESVILLE COMPRESSOR NO. 63		WIGGINS COMPRESSOR		BLACKWELL COMPRESSOR STATION	
LOCATION	1-26, 1-24&2-30 INCH		1-24 IN. & 1-30 IN.		20 IN. OKLAHOMA CITY LINE	
OWNER	TENNESSEE GAS PIPELINE CO.		FLORIDA GAS TRANSMISSION CO.		CITIES SERVICE GAS CO.	
SAMPLED	12/12/79		12/18/79		06/22/79	
FORMATION	NOT GIVEN		NOT GIVEN		NOT GIVEN	
GEOLOGIC PROVINCE CODE	250		210		355	
PRESSURE,PSIG	694		340		255	
FLOW,MCFD	1275000		745000		180000	
COMPONENT, MOLE PCT						
METHANE	95.6	----------	96.1	----------	92.0	----------
ETHANE	2.2	----------	2.1	----------	4.6	----------
PROPANE	0.5	----------	0.4	----------	0.9	----------
N-BUTANE	0.1	----------	0.1	----------	0.2	----------
ISOBUTANE	0.1	----------	0.1	----------	0.1	----------
N-PENTANE	TRACE	----------	TRACE	----------	0.1	----------
ISOPENTANE	TRACE	----------	0.1	----------	TRACE	----------
CYCLOPENTANE	TRACE	----------	TRACE	----------	TRACE	----------
HEXANES PLUS	0.1	----------	0.1	----------	0.1	----------
NITROGEN	0.5	----------	0.3	----------	1.6	----------
OXYGEN	0.0	----------	0.0	----------	0.0	----------
ARGON	TRACE	----------	TRACE	----------	TRACE	----------
HYDROGEN	0.0	----------	0.0	----------	TRACE	----------
HYDROGEN SULFIDE	0.0	----------	0.0	----------	0.0	----------
CARBON DIOXIDE	0.8	----------	0.6	----------	0.4	----------
HELIUM	TRACE	----------	TRACE	----------	0.04	----------
HEATING VALUE*	1033	----------	1038	----------	1057	----------
SPECIFIC GRAVITY	0.585		0.583		0.606	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

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TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 64 SAMPLE 15674		INDEX 65 SAMPLE 15673		INDEX 66 SAMPLE 15651	
STATE	OKLAHOMA		OKLAHOMA		OKLAHOMA	
COUNTY	KAY		KAY		TEXAS	
FIELD	HUGOTON, OKLAHOMA		PANHANDLE, WESTERN & CENTRAL		HUGOTON, OKLAHOMA	
PLANT NAME	BLACKWELL COMPRESSOR STATION		BLACKWELL COMPRESSOR STATION		BAKER COMPRESSOR STATION	
LOCATION	26 IN. GUYMON		26 IN. FROM CANADIAN TEXAS		26 IN MAINLINE	
OWNER	CITIES SERVICE GAS CO.		CITIES SERVICE GAS CO.		CITIES SERVICE GAS CO.	
SAMPLED	06/22/79		06/22/79		06/18/79	
FORMATION	PERM-CHASE GROUP		PERM-WICHITA-ALBANY		PERM-CHASE GROUP	
GEOLOGIC PROVINCE CODE	355		355		360	
PRESSURE,PSIG	563		563		607	
FLOW,MCFD	234000		163000		96000	
COMPONENT, MOLE PCT						
METHANE	84.9	----------	89.5	----------	75.0	----------
ETHANE	6.0		5.2		6.2	
PROPANE	1.6	----------	1.7	----------	2.7	----------
N-BUTANE	0.1		0.4		0.7	
ISOBUTANE	TRACE	----------	0.2	----------	0.4	----------
N-PENTANE	0.1		0.1		0.2	
ISOPENTANE	0.1	----------	0.1	----------	0.2	----------
CYCLOPENTANE	0.1		TRACE		TRACE	
HEXANES PLUS	0.1	----------	0.1	----------	0.1	----------
NITROGEN	6.5		1.5		14.0	
OXYGEN	0.0	----------	TRACE	----------	0.0	----------
ARGON	TRACE		TRACE		TRACE	
HYDROGEN	TRACE	----------	TRACE	----------	TRACE	----------
HYDROGEN SULFIDE	0.0		0.0		0.0	
CARBON DIOXIDE	0.3	----------	0.9	----------	TRACE	----------
HELIUM	0.22		0.07		0.45	
HEATING VALUE*	1030	----------	1078	----------	1000	----------
SPECIFIC GRAVITY	0.639		0.626		0.695	

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 67 SAMPLE 15650		
STATE	TEXAS		
COUNTY	GRAY		
FIELD	PANHANDLE E&W		
PLANT NAME	PAMPA COMPRESSOR STATION		
LOCATION	20 IN.		
OWNER	CITIES SERVICE GAS CO.		
SAMPLED	06/18/79		
FORMATION	NOT GIVEN		
GEOLOGIC PROVINCE CODE	440		
PRESSURE,PSIG	350		
FLOW,MCFD	44000		
COMPONENT, MOLE PCT			
METHANE	76.7		
ETHANE	6.4		
PROPANE	4.3		
N-BUTANE	1.6		
ISOBUTANE	0.7		
N-PENTANE	0.4		
ISOPENTANE	0.3		
CYCLOPENTANE	TRACE		
HEXANES PLUS	0.1		
NITROGEN	8.8		
OXYGEN	0.0		
ARGON	TRACE		
HYDROGEN	TRACE		
HYDROGEN SULFIDE	0.0		
CARBON DIOXIDE	TRACE		
HELIUM	0.43		
HEATING VALUE*	1116		
SPECIFIC GRAVITY	0.713		

* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

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